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ABSTRACT

A study examined the relative effectiveness and synergistic effect of two treatments for reducing speech anxiety--Self-Statement Modification (SSM), a therapy focused on modification of cognitive behavior; and Modified Desensitization (MD), a therapy focused on physiological variables, utilizing relaxation training, group hierarchy construction, and reciprocal inhibition of anxiety through the pairing of imaginal scenes with relaxation. Four treatments--SSM, MD, Cognitive Modification (a combined version of SSM and MD), and an attention-placebo treatment--were administered to four different groups (a total of 53 university students with high self-ratings of speech anxiety) in four two-hour periods, preceded and followed by assessment sessions. A five-week follow-up assessment was performed, which included self-report measures of speech and social anxiety, as well as stress-condition measures (self-report and behavioral) of acute speech anxiety. Results indicated that SSM was the most effective strategy for reducing speech anxiety, and that students experiencing high social anxiety benefited more from treatments than those experiencing low social anxiety. The synergy hypothesis, designed to examine an additional unique effect resulting from the interplay of procedures, was not supported. (Fourteen tables and three figures are included, and appendixes providing the rationale and guidelines for treatment, speech anxiety hierarchy, handout material on Self-Statement Modification and Speaking Skills, assessment instruments, confidential evaluation, and 187 references are appended.) (MM)

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APPLIED SELF-STATEMENT MODIFICATION AND APPLIED MODIFIED DESENSITIZATION IN THE TREATMENT OF SPEECH ANXIETY: THE SYNERGY HYPOTHESIS

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by

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APPLIED SELF-STATMENT MODIFICATION AND APPLIED MODIFIED DESENSITIZATION IN THE TREATMENT OF SPEECH ANXIETY: THE SYNERGY HYPOTHESIS

ABSTRACT

Diane C. Melanson
University of Ottawa, 1986

This study investigated the relative effectiveness and synergistic effect of two treatments for reducing speech anxiety as well as interaction of treatments with social anxiety. An application component was added to both Self-statement Modification and Modified Desensitization (coping model) procedures in order to consolidate learning and increase maintenance. This was achieved by having Ss practice their newly-acquired skills while making short speeches within the group counselling sessions.

The synergistic effect was evaluated through a two-by-two design format which integrated a combined treatment called Applied Cognitive Modification and an Attention-Placebo treatment. Fifty-three Ss, university students with high self-ratings of speech anxiety and motivation for treatment, completed all assessment requirements. High and low socially-anxious Ss were identified using a median split on the Social Avoidance and Distress Scale.

Four experienced counsellors administered the treatments which consisted of four two-hour sessions preceeded and followed by assessment sessions. Assessment sessions were run independently of treatment and in the absence of the counsellors. Five weeks after termination of treatment, a Follow-up assessment was performed. Assessment included measures of Pre-treatment, Post-treatment and Follow-up self-report speech anxiety (Personal Report of Confidence as a Speaker, SR Inventory of Anxiousness) and social anxiety (Social Avoidance and Distress Scale, Fear of Negative Evaluation Scale). As well, self-report and behavioral stress-condition measures of acute levels of speech anxiety (State-Trait Anxiety Inventory, Rating Non-Verbal Behavior Scale) were administered at Pre and Post-treatment.

Results indicate tentative support for the greater effectiveness of Applied Self-statement Modification. Therefore, additional evidence is provided for the effectiveness of a therapy focused on modification of cognitive behavior. The synergy hypothesis designed to examine "more than additive" effects of the treatment components is not supported in that the combined version of the basic treatments, in some cases, provided less benefit than the summed individual components. No sex differences were evident and no significant amount of variance could be traced to the counsellors. Treatment effects appear to generalize to social situations other than public-speaking, but the client variable of social anxiety has not been shown to interact with treatments in a systematic manner. Results do show that Ss experiencing high social anxiety benefit more from treatments generally than those experiencing low social anxiety. However in assisting individuals who experience high social anxiety in addition to their speech anxiety, structured and time-limited procedures such as those employed in this study offer much promise.

CHAPTER I

INTRODUCTION

In college and university settings, academic performance anxiety is a strong concern to students as it impedes participation in academic activities. A significant amount of anxiety can be experienced by students in situations such as addressing a concern with a teacher or making formal class presentations. Within this introduction, we will consider the prevalence of speech anxiety and its interrelationship with general interpersonal anxiety. Then the general thrust of this investigation will be outlined before concluding with definitions and a statement of the problem.

Geer (1965) observed that fear of public speaking was one of the six most intense fears reported by a group of 783 college students. In a nationwide survey of american adults, Bruskin Associates (1973) found that the most frequently reported fear was that of speaking in public.

Indeed, the fear of public speaking or speech anxiety is a widespread phenomenon in society when viewed through its interrelationship with interpersonal performance anxiety in general. Extensive studies of college populations suggest that approximately 20 percent of the students in major universities may be appropriately described as having high oral communication apprehension (c.f. McCroskey, 1970). As defined by McCroskey, oral communication apprehension is an individual's level of fear or anxiety associated with either real or anticipated communication with another person or persons. As reported elsewhere by McCroskey (1977), even higher percentages have been found to exist in smaller colleges and community colleges. Similar frequencies of high trait communication apprehension have been observed in public school settings, among adult populations, and among senior citizens (McCroskey, 1976; Moore, 1972; Scott, McCroskey & Sheahan, 1977).

The complex relationship of this specific form of anxiety to general interpersonal communication is considered crucial. The extent to which speech anxiety can be associated with low self-esteem, introversion, under-achievement and even academic failure remains an important topic for consideration. The speech communication profession has long recognized the debilitating effects of high levels of anxiety experienced in introductory speech courses. Professionals at all levels in Education can attest to the limits thereby imposed to the full development of individual potential and participation in academic life.

As well, it is considered essential that through the helping relationship, practioners aim at giving power to the client. Inasmuch as we work at refining treatment interventions that will facilitate self-control for the client, we are truly contributing to the enhancement of mental health. It has been said that "one of the main goals of most systems of counselling is to assist clients to manage their own affairs, or ultimately to act as their own counsellors" (Carkhuff & Berenson, 1976).

This study focused on the empirical validation of constructs in their application to treatment. In the context of a treatment outcome investigation and following upon Kiesler's 1971 recommendations for specificity in outcome research, the present investigation provides a partial attempt at addressing the crucial question of which therapist behaviors produce what changes in which kinds of patients.

As a preamble to stating the precise parameters of this research, it is deemed appropriate to define the main concept of anxiety. Jacobson (1964) viewed anxiety as a learned, maladaptive behavior with components of physiological arousal as well as cognitive determinants. Its elicitation occurs when a real or imagined threat is perceived and efforts are made to meet or avoid it. Others have also conceptualized anxiety as a subjectively unpleasant emotional response to perceived stress or threat (eg. Cattell & Scheirer, 1961; Spielberger, 1972).

The physiological changes characteristic of fear consist of a rapid heart rate, rapid breathing, dry mouth, sweating, a "sinking feeling" or a "sick feeling" in the stomach, trembling and shaking of the limbs, and an urge to empty the bladder (Levy, 1982). Though physiological arousal may be present when either real or imagined threat is perceived, many authors distinguish between the concepts of fear and anxiety. Fear is an emotion that is defined as occurring in relation to a real perceived danger that confronts the individual in his/her environment that would be considered to be a danger by other people (that are part of his/her social and cultural group). Anxiety can be seen as an emotion identical to fear that occurs in the absence of a real threat or danger from the environment. The absence of a real environmental danger gives anxiety an irrational quality (Levy, 1982).

According to Gaudry & Spielberger (1971), one can infer the motivational concept of anxiety from verbal reports, physiological indications and general behavior, but one cannot point to a specific behavior and unambiguously state that it is "anxiety".

> To put the argument in a different form, a construct such as anxiety becomes useful when it can be related to antecedent or stimulus conditions and consequent or response conditions. For example, a stimulus condition that typically evokes anxiety is that of entering an examination room to take an important test. A student may respond by sweating and trembling, or by verbally reporting feelings of apprehension. From the relationship between stimulus and response, anxiety is inferred and we may then evaluate the performance of students who are rated as either high or low in anxiety (p.8).

Generally speaking then, many theorists speak of the three response components of anxiety: verbal-cognitive, physiological and behavioral (i.e. avoidance of an external object or situation). As will be seen in Chapter II, each of these three components provides therapists and clinical researchers with a focus for treatment procedures. The behavioral focus leads into "learning-by-doing" procedures; a "mediational" approach is derived from the verbal-cognitive focus; and the physiological focus is linked with a deconditioning approach for treatment of anxiety.

From an overall conceptual point of view, studies in the treatment of speech anxiety have generally adopted one of three models which are linked to the response components. In the present context, the term "model" is to be taken as an empirical and operational construct rather than a theoretical one. The first model which is called the skill-acquisition model is based on the behavioral mode of response as the privileged channel for the learning of anxiety or rather for the dearth of learning of adaptive behaviors. Simply put, anxiety results from a deficit in a person's repertoire of overt socially-skilled responses. Consequently, situations such as public-speaking are often associated with undesired outcomes which generate subjective feelings of anxiety and distress. Operant and modeling techniques may teach the person about how contingencies in the real world operate.

The second model operates on the assumption that individuals may possess adequate behavioral repertoires, but fail to carry through because of subjective anxiety responses that inhibit the adaptive behaviors. The subjective anxiety is postulated to have a strong physiological focus and is seen as conditioned. The conditioning explanation holds that habits are learned when the appropriate conditions are arranged in contiguous temporal and spatial relationships. Indeed, anxiety is viewed as a conditioned autonomic response. That may itself produce aversive stimuli that function as a drive for learning new avoidance responses. Unlearning of anxiety behaviors will involve deconditioning mechanisms.

The third model also operates on the assumption that the subjectively-experienced anxiety serves to perpetuate a skill deficit or inhibit its manifestation. By the same token, this anxiety must be reduced or inhibited before skill practice can be implemented. The S-R rationale of the conditioning model is criticized by disciples of this model. Its substitute, the S-O-R model (stimulus - organism - response), serves to bring into play the role of insight, choice, unconscious process, awareness or symbolic representation as a necessary dimension in the interaction. The individual's appraisal (not necessarily conscious) of the situation is a mediating factor between the environmental stimulus and the emotional response. In general there is an intimate reciprocal relationship between cognitive processes and bodily reactions in emotion.

Speech anxiety can be defined as anxiety experienced when individuals give speeches, prepared oral messages delivered to audiences of more than three listeners with little or no verbal audience feedback (Page, 1978). Some examples of academic situations in which speech anxiety can be experienced are asking questions in class, addressing a concern or expressing an opinion to the teacher in the presence of a small group of people, leading seminars, participating in classroom discussion, presenting a report or making a class presentation.

Following State-Trait Anxiety Theory (Spielberger, 1966), it is possible to conceptualize speech state-anxiety as anxiety experienced in an actual speaking situation which is characterized by subjective, consciously perceived feelings of tension and apprehension, and activation of the autonomic nervous system. Speech trait-anxiety, on the other hand, refers to relatively stable individual differences in the disposition or tendency to respond with elevations in anxiety-state in a particular speaking situation.

One of the purposes of this investigation is to examine differential effects of treatment for speech anxiety on high and low socially-anxious Ss. At this point, the distinction and interrelation between speech anxiety and social or general interpersonal anxiety will be examined. In certain cases, speech anxiety is a circumscribed problem, unrelated to overall coping ability. In others, it is part of a social-anxiety syndrome. Meichenbaum, Gilmore and Fedoravicius (1971) have estimated that about half of those volunteering for speech anxiety treatment also have noticeable problems with anxiety in other social situations. Research in the area of more global fear and/or avoidance of communicating is extensive and important. One need only look to the work of Watson & Friend (1969) on social anxiety, that of McCroskey (1970) and others on communication apprehension; that of Phillips (1968) on speech reticence; Zimbardo (1977) on shyness. One line of research has further defined this syndrome as social-evaluative anxiety.

The construct of social-evaluative anxiety was validated and further refined by Watson and Friend (1969). It is the experience of distress, discomfort, fear, anxiety, etc. in social situations; the deliberate avoidance of social situations (Social Avoidance and Distress scale); and finally the fear of receiving negative evaluations from others (Fear of Negative Evaluation scale). Correlational data showed that people high in social avoidance and distress tended to avoid social interactions, preferred to work alone, reported that they talked less, were more worried and less confident about social relationships, but were more likely to appear for appointments. Those high in fear of negative evaluation tended to become nervous in evaluation situations, and worked hard either to avoid disapproval or gain approval.

As it is deemed important to be cognizant of these parallel bodies of research, and indeed, as the nature of anxiety in subjects will be an important variable for consideration, the concept of social anxiety as measured by Watson & Friend (1969) will be seen through its interrelationship with speech anxiety and will serve to help define the subject population. However, the main body of the review of the literature will concern itself with studies aimed directly at treatment of speech anxiety rather than social anxiety.

Statement of the Problem

The differential or relative effectiveness of two counselling methods and a postulated synergistic effect in the reduction of speech anxiety are considered the prime target of this study. The purpose of such an investigation is twofold: 1) to further develop and refine treatment methods for a rather widespread and frequently debilitating form of anxiety, and 2) to provide replication of previous research regarding the differential effects of said treatments on high and low socially-anxious Ss.

In the first instance, two specific, but overlapping approaches to the treatment of speech anxiety are compared in terms of overall effectiveness. These treatments are Applied Desensitization, focusing more so on physiological variables, and Applied Self-statement Modification, which draws more attention to cognitive variables. The conceptual foundations of these procedures will be briefly dealt with in the review of the literature. These two established procedures have been augmented by in-therapy application practices for greater consolidation of learning. Such enhancement of the procedures under study would appear to further refine both treatment strategies.

The two treatments, Applied Desensitization and Applied Self-statement Modification, were incorporated into a two-factor design in order that the interaction between treatments could be investigated. The interaction hypothesis is essentially the hypothesis that the combined treatment (Applied Desensitization plus Applied Self-statement Modification) produces more effect than the simple sum of the effects of the two component treatments. The interaction is also sometimes referred to as the multiplicative effect of the two treatments. The design also allows examination of the effect of each treatment individually through hypotheses about the main effects of each of the two treatments. In a study combining a skill-acquisition approach (speech preparation) with response-inhibition strategies, Sherman, Mulac & McCann (1974) had referred to the interaction between treatments as a synergistic effect.

Secondly, this investigation proposes to examine client treatment compatibility based on the subject variable of social anxiety which can be linked with speech anxiety in certain individuals.

As is emphasized in the conclusion of the review of the literature, previous research has shed light on important considerations and has sometimes produced apparent contradictions. In the application of treatment to physiological versus cognitive variables of emotion (response-inhibition model), we require further clarification of the issue of therapeutic salience.

Synergistic treatment formulations covering both types of variables have received limited attention. In a study designed to clarify the relationship between communication apprehension, arousal and speech state anxiety (Behnke & Beatty, 1981), Schachter's (Schachter & Singer, 1962) cognitive-physiological formulation of emotion was drawn upon. From this perspective neither physiological arousal nor cognitive perception alone fully account for a particular emotion. Rather, these two agents coact additively to account for the emotional experience. High arousal states lead to pressures to understand and label sympathetic nervous activity. The particular label chosen for such arousal depends upon situational cues "as interpreted by past experience" (Schachter & Singer, 1962, p.380). If communication apprehension and autonomic arousal are considered orthogonal components which additively account for speech state anxiety, Behnke & Beatty (1981) reasoned, then anxiety reduction strategies which affect both arousal and cognitive determinants should produce the most dramatic results. Empirical data was considered to be inadequate as yet to confirm this hypothesis.

The previous considerations have guided formulation of research questions for the present investigation. Due to the form of contrast statements employed in the statistical design and in order to achieve greater discriminating power, the specific research questions are:

Primary Questions

1. Are the effects of the combined treatment (Applied Cognitive Modification) greater than the additive effects of Applied Self-statement Modification and Applied Modified Desensitization in reducing speech anxiety?.
2. Are treatments incorporating Applied Self-statement Modification more effective in reducing speech anxiety than treatments not containing this procedure?
3. Are treatments incorporating Applied Modified Desensitization more effective in reducing speech anxiety than treatments not containing this procedure?

Secondary Questions

1. Are the effects of Applied Cognitive Modification greater in reducing the speech anxiety of low and high socially-anxious Ss than both Applied Self-statement Modification and Applied Modified

Desensitization?

2. Does Applied Self-statement Modification reduce the speech anxiety of high socially-anxious Ss more than low socially-anxious Ss?
3. Does Applied Modified Desensitization reduce the speech anxiety of low socially-anxious Ss more than high socially-anxious Ss?

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

The present section represents a review of the principal experimental studies that have drawn from theoretical and clinical sources to develop treatments for speech anxiety. The conceptual framework of treatments under consideration in this investigation is based on learning theory.

In an effort to bring some structure to the litany of research permutations in the area of comparative treatment effectiveness, the review is classified in the following manner:

1) Initially, the literature relating more specifically to a "skills-acquisition " or "skill-training" model for treatment of speech anxiety will be broadly surveyed in an effort to clarify and distinguish it from the second portion of this review.

2) The second and main portion of this review will explore the body of studies that stress a direct anxiety-reduction or response-inhibition model. Studies utilizing arousal-reduction procedures will be explored followed by studies

focusing mainly on cognitive variables.

Both models can be said to facilitate skill-acquisition, but the emphasis in the second section is on skills to reduce anxiety rather than acquisition of public-speaking skills. The two bodies of research are viewed as providing complementary formulations that retain credibility. However, the main therapeutic procedures that were drawn upon in the context of this investigation originate from the second clinical research tradition.

In view of the large number of studies in the area, the review will focus on research results with a lesser amount of time devoted to methodological information. Studies which are more directly relevant will be more thoroughly reported. The main interest will be the determination of what impact the procedures had on the reduction of speech anxiety. Generally the research methods used in the reviewed studies are adequate and will be referred to only when flaws or inconsistencies have been noted. When no special note is made, studies have employed adequate control procedures, sufficient N, and multiple dependent measures (at least self-report and behavioral). Length of treatment has generally been brief (3-10 sessions), group procedures have predominated and follow-up procedures have frequently been used.

It should be noted that nearly all studies employ a less-appropriate univariate approach to data analysis involving multiple dependent measures. This method which does not take into account the intercorrelation of dependent variates within the same dimension increases the probability of Type I statistical error (Bock, 1975). A more appropriate method of analysis would be a form of multivariate ANOVA. Special note will be made of studies employing multivariate analysis.

Skill-acquisition Model

The first group of studies, i.e. the skill-acquisition literature operates on the assumption that the anxiety results from a deficit in a person's repertoire of overt socially-skilled responses. The model further states that some individuals have never had the opportunity to learn appropriate behavioral responses (Wolpe & Lazarus, 1966), while others have established non-assertive responses through observation (vicarious learning) of inappropriate models such as parents and significant others (Bandura, 1969; Mahoney, 1974). Consequently, situations such as public-speaking are often associated with undesired outcomes which generate subjective feelings of anxiety and distress.

Within this context, the goal is to replenish the skill deficit by learning specific speaking behaviors. The focus is on a "learning-by-doing" model of treatment which operates on the "behavioral" response-mode of the individual. It is expected that the anxiety will diminish as positive behavior is reinforced. The new behavioral repertoire will in turn be maintained through reinforcement from the social environment (Curran, 1979).

The most commonly employed procedure is Behavior Rehearsal (BR) which may or may not be combined with modeling and coaching (Galassi & Galassi, 1978). In speech anxiety treatment, BR normally involves graduated role-playing augmented at times by therapist modeling and coaching. In the presence of the treatment group, clients or subjects will typically make brief extemporaneous speeches for which they will receive feedback from the therapist. The participants in the group may be seen as providing various models for each other.

Too frequently unfortunately, studies utilizing this procedure may imply rehearsal alone or in a combined format with the procedures of coaching and modeling. Also very little real difference seems to exist between the procedures of BR, successive approximations, assertion training or in-vivo exposure.

Clevenger (1959), was one of the first to submit a synthesis of comtemporary work on the topic of "stage fright". This group of early studies conceived by the Speech Communication profession focused on behavioral and subjective correlates of stage fright and their relationship to assessment of personality adjustment. An analysis of the nature of this phenomenon therefore preceeded attempts to evaluate the effectiveness of structured programs to reduce it. Clevenger hypothesized that "audience-perceived stage fright, cognitively-experienced stage fright, and physiological disruption are three variables which operate with only moderate interdependence during the course of a public-speech". Along with the three-tiered response system spoken of by Lang (1969), this hypothesis was gradually integrated into assessment procedures in subsequent treatment outcome research.

The skill-training literature which is reviewed first has provided us with some amount of validation for routine speech class practices. In 1971, Johnston et al. employed a procedure which they loosely defined as Assertive training, but which also seems to fit the definition of BR quite well. The setting was middle-school, 8th grade. Both Systematic desensitization (SD) and Assertive training treatment groups met for 50 minutes twice weekly for nine sessions. They implied that this was a typical classroom procedure and that the gradually increased confrontation with anxiety-evoking elements could explain the equally significant results when compared to SD. It involved encouraging students to chat informally for a few minutes after which each student gave a short recorded talk, listened to the recording and gave the talk a second time. Using only one self-report measure, no significant differences were found. The procedure was thought to show promise for school-settings because of its simplicity and practicality.

In a frequently cited effort, Sherman, Mulac & McCann (1974) compared self-relaxation and rehearsal feedback of non-verbal behaviors in the treatment of subjective and behavioral dimensions of speech anxiety. Combined effects were also explored and were found to be significant, while independent treatments were found to provide no more benefit than the speech course control. The authors postulated a fundamental interdependence between the subjective and behavioral response dimensions in which neither is susceptible to substantial change without parallel facilitation in the other.

Vrolijk (1975) has concluded that the combination of BR and SD is slightly superior to BR alone. BR gave better results than SD, but this finding was explained in terms of the difficulties of controlling the key variables in the Desensitization method: relaxation and imagery. BR was seen as providing maximum feedback in a real life situation.

Fawcett and Miller (1975) examined the effects of an instructional package on the following public-speaking behaviors: looking at the audience, making gestures, performing a number of public-speaking behaviors such as position on stage, initial eye sweep, acknowledgement of personal introduction and topic introduction. The authors proposed to provide social validation for the training procedure by correlating audience-ratings of public-speaking performance and direct observations of target responses. Their goal was attained using a S population of students and para-professional staff, but it must be noted that control procedures were lacking.

In 1976, Wright compared SD and social skill training in the context of helping undergraduates participate more actively and comfortably in class discussions. A verbal self-report measure revealed both treatments to be superior to the control condition, while skill training was viewed by observers to produce higher frequencies of verbalizations in an analog situation, but not in the natural environment.

Weissberg and Lamb (1977) sought to compare the effects of SD, speech preparation and a complex package of SD combined with self-statement modification. The speech preparation program included practice with group feedback. Results indicate that the speech preparation and the combined program were the most effective. The combined program was effective in reducing generalized anxiety as well. The authors point to a combination of all treatments as potentially even more beneficial, but methodological inconsistencies in the design, such as a small N for the speech preparation group may render any conclusions somewhat tentative.

Marshall, Stoian & Andrews (1976) also compared skills training and SD in order to test hypotheses based on the assumption that desensitization targets only "feelings" of anxiety and skills training targets only overt behaviors.

Their predictions, based on earlier findings (Marshall, Presse and Andrews, 1976) addressed the issue of interaction between treatments and targeted behavior change (subjective distress or behavioral manifestations of anxiety). Generally, the authors confirm the hypothesis that the combination procedure would be more effective for both targets. Though the predicted interactions were confirmed, skills training proved no better than SD in reducing the behavioral manifestations of anxiety. Unfortunately, results were based on a rather small sample and must be viewed as rather tentative.

Next Fremouw and Zitter (1978) compared skills training with a cognitive-restructuring plus relaxation program. The skill training component included instructions on non-verbal behavior that were to be practiced in conjunction with videotape feedback. Both treatments succeeded in reducing specific speech anxiety but generalization to social anxiety did not occur. Non-significant trends suggested the following interaction: Restructuring-relaxation was beneficial to high socially-anxious Ss while skills training was helpful to both high and low socially-anxious subjects. In order to increase generalization, a proposal to integrate both approaches was made.

Fremouw and Harmatz (1975) had successfully used a combination skills training-relaxation-self-statement modification procedure in their study on helper characteristics in a peer-training model. Of special note is the use of multivariate statistical analysis. Comparative treatment outcome of components is not examined per se, but the helper and helpee groups were both found to be effective in reducing speech anxiety.

Trussell (1972) studied the effects of graduated BR plus feedback and the same treatment with SD. When compared to a no-treatment control condition, both treatments demonstrated significant and equivalent speech anxiety reduction, although the state anxiety measure did not differentiate the BR group from the control group.

A recent study by Kindness & Newton (1984) examined the importance of complementing social skills training with anxiety reduction and cognitive restructuring techniques for the treatment of social interaction difficulties. The study did not focus solely on speech anxiety and its authors do not specify the specific anxiety reduction procedures. However, it raises implications for the explicit inclusion of anxiety reduction and cognitive techniques in skills training programs. The authors state that the program reflects potentially independent aspects of social interaction difficulties in order to accomodate individual patterns of change in the areas of social performance, anxiety reduction and improved self-esteem. Results showed that the treatment package was successful in diminishing difficulties in the areas as compared to a non-clinical no-treatment group and that the improvement was maintained at a 2-year follow-up. Previous studies employing skills-training procedures had provided little evidence of lasting improvement in social competence (Spence & Marzillier, 1981; Spence & Spence, 1980).

Response-inhibition Model

Some of the studies already reviewed compared a skill-training procedure to a procedure based on the response-inhibition model (ex. SD). In addition to these studies, a large number of investigations have focused only on procedures within the anxiety response-inhibition tradition. Only those studies excluding procedures from the skill-training literature will be reviewed in the remaining section.

Within the response-inhibition framework, the primary goal is to directly inhibit, or decondition the anxiety with incompatible, but socially-appropriate responses such as relaxation skills or cognitive restructuring. Clinical researchers point either to a conditioning or a cognitive mediational model of anxiety. They view the subjectively experienced anxiety with its physiological and/or cognitive determinants as perpetuating the skill deficit or inhibiting the established repertoire of skills. The goal is to defuse the anxiety or deal with it directly before going on to skill practice in order to reinforce anxiety reduction. The conditioning model grew from Hull's (1943) work with drive-reduction conditioning theory as an alternative to repression theory (Wolpe, 1958). This model holds that habits will be learned or unlearned if the appropriate conditions are arranged in contiguous temporal and spatial relationships. Behavior is sometimes viewed as neurological response sequences.

Physiological deconditioning

The first sub-section of studies from the response-inhibition literature will be dealt with presently. There are a large number of published studies from professional Journals employing procedures designed to promote therapeutic gain by modifying physiological arousal variables as the sole or main goal. They employ either relaxation-training, biofeedback, systematic desensitization or In Vivo desensitization. Also, a number of studies have investigated treatments based on the conditioning model of extinction through simple exposure without relaxation procedures. They have employed the techniques of implosion and flooding.

Initially, the review will focus on studies employing only a relaxation procedure or variant. Then, studies employing SD as one of or the sole treatment under investigation will be reported. Last, studies of extinction treatments will be examined. For most studies, this review will state the technique(s) being used as well as relevant results, but will offer additional methodological information only for studies which lend heuristic value to the present investigation.

A few investigations compared relaxation training or biofeedback training procedures with control procedures. For relaxation training, two main procedures have been used: Jacobson's (1938) Progressive Muscular Relaxation and Schultz and Luthe's (1959) Autogenic Training. The latter procedure develops a relaxed state through mental concentration without use of physical exercises. Each procedure leads the subject into a mild autohypnotic state which differs from biofeedback training. There seems to be little evidence for differential effectiveness of the two autohypnotic procedures (Bootzin, 1975).

Sherman, Mulac, & McCann (1974) and Zemore (1975) had found relaxation training to be no better than a speech course (no-treatment) control. Non-significant differences between relaxation training and a placebo condition were reported by Goldfried and Trier (1974) on four out of five measures. However the authors stated that a self-control version (active coping skill) of relaxation training was favored because of consistent within group improvement. Continued improvement after termination of treatment was interpreted as being consistent with a view of self-control that involves a learned skill that improves with repeated practice.

Osberg (1981) ran a comparative outcome study using only relaxation training strategies based on the hypothesis that an applied training format would increase efficacy. This involved instructions and practice in relaxing while presenting brief speeches. Applied relaxation was found to be superior to standard relaxation training on several measures, but equal to a speech practice (exposure) treatment. This particular study with its "application" or practice concept was of particular interest to the present investigator, as it could be said that a practice component might enhance any treatment procedure.

Gatchel and his colleagues (Gatchel , 1974; Gatchel & Proctor, 1976; Gatchel et al. 1977; Gatchel et al. 1979) studied the effects of a biofeedback procedure in the treatment of speech anxiety. Voluntary Heartrate Control (VHC) is used to teach the subject to control his/her own cardiovascular functioning (e.g. to slow down heartrate). In the 1976 study, VHC was found to be superior to a validated placebo treatment on all measures, one or more from each measurement domain. In the 1977 study, a combined relaxation/biofeedback group demonstrated the lowest level of physiological responding as compared to independent treatments and a false biofeedback placebo control. However, the degree of autonomic awareness was not found to be related to therapeutic improvement.

Until relatively recently, the most widely used anxiety reduction therapy has not been relaxation training, but rather Systematic Desensitization (SD), a more complex procedure comprising imagery work. Many studies have sought to compare SD and relaxation procedures. Before reviewing studies of comparative outcome, the desensitization literature will be explored.

The effectiveness of SD has been apparent (Eysenck 1952, 1961; Lang & Lazovik, 1963; Kazdin & Wilcoxon 1976; DiLoreto 1971) in the treatment of a large number of phobic disorders including social anxiety (DiLoreto, 1971). Its author, Joseph Wolpe has long maintained (Wolpe, 1958, 1969, 1976; Wolpe et al., 1973) through the "reciprocal inhibition" rationale that social anxiety is a classically conditioned response, resulting from repeated exposure to aversive experiences in social situations. Both relaxation and assertion are seen as being innately antagonistic to anxiety responses. Relaxation or assertion training are considered to reciprocally inhibit social anxiety. As defined by Wolpe, "if a response inhibitory of anxiety can be made to occur in the presence of anxiety-evoking stimuli, it will weaken the bond between these stimuli and the anxiety" (p. 151, Wolpe, 1969).

The theorical formulation, which is similar to Guthrie's (1935), is derived from the work of the early experimentalists and the application of learning theory. Hull's (1943) drive-reduction theory of classical conditioning, a fatigue theory of extinction ("conditioned inhibition") and Sherrington's (1906) concept of reciprocal inhibition, whereby the evocation of one reflex suppresses the evocation of other reflexes both served as the basic underpinnings of the technique.

The procedure focuses on a physiological state of relaxation as the anxiety-inhibiting mechanism in a paired association of graded imagery and relaxation. The standard procedure consists of a modified form of progressive muscular relaxation-training (Jacobson, 1938) along with the elaboration of a hierarchy of anxiety-contingent, graded imagery scenes. In this case, the hierarchy contains speaking situations from least to most anxiety provoking. Subsequently, instructions are given to the client for sequential pairing, i.e. visualization while in a deeply relaxed state. That is, the S is instructed to relax and to imagine the least threatening hierarchy situation while continuing to relax. If the S begins to feel anxious, he/she is told to drop the image, focus on relaxation and try again. The S works up the hierarchy until able to relax while imagining the top hierarchy situation. Through the counter-conditioning process, the threatening stimulus is paired with a relaxation response rather than with heightened arousal. The eventual extinction of the anxiety should occur following gradual repetition of this pairing sequence.

Paul (1966), Woy & Efran (1972) and Myers (1974) have each demonstrated the effectiveness of individually administered SD in the context of speech anxiety. Of these studies, Paul's (1966) is considered the most well prepared especially considering the state of behavior therapy research at the time.

Prior to Paul's (1966) classic study, very few detailed experiments were reported in the professional literature. The author examined the relative merits of desensitization and insight in individual treatment for the reduction of speech anxiety. An attention placebo group and two additional control groups (no-treatment and no-contact) were utilized, making the study extremely sound methodologically. Treatment lasted 5 hours for 15 subjects in each treatment condition and therapists were distributed accross treatments. The subjects who were students in a public-speaking course were assessed using behavioral, cognitive and self-report measures. Results supported SD as the most successful treatment based on significant differences between SD and the three control groups on all measures except for a second physiological measure. Insight-oriented psychotherapy was found to be more beneficial than the no-treatment control, but not more so than the attention-placebo condition. Unfortunately, the insight treatment is not described in great detail, but it seems to have been rather unstructured.

Many effective variations on the traditional SD procedure have been established. In 1961, Lazarus published a report of his work with group desensitization of phobic disorders. Paul and Shannon (1966) equated 10 group-treatment Ss with the previous control Ss in a design intended to examine the effects of modified SD augmented by group discussion and educative goals for the treatment of speech and social anxiety. Results showed that on all measures, group SD resulted in a significant reduction in interpersonal anxiety and a comparable increase in grade-point average as compared to the previous control and individual insight procedures.

Efforts to modify the basic SD procedure in either individual or group administration have generally yielded non-significant differences. Audiotaped, self-administered SD (Kahn & Baker, 1968; Lohr & McManus, 1975; Marshall, Stoian & Andrews, 1977) appears to be as effective as group SD; and SD administered by graduate students in communications or in counselling seems to be equally effective (McCroskey, Ralph & Barrick, 1970). When administered in as little as 90 minutes (Myers, 1974) or in the context of treatment for test anxiety (Zemore, 1975), SD effectively reduces speech anxiety.

Davison (1968) conducted one of the first experiments designed to disqualify the counter-conditioning hypothesis by studying the effects of imagery presentation in the absence of relaxation. This initial study confirmed the counter-conditioning hypothesis, but a subsequent study clearly stated that the concept of reciprocal inhibition represented an unwarranted neurologization of a highly problematical theoretical system (Wilson & Davison, 1971). Later the same authors (Davison & Wilson, 1972) defended the procedure against Wilkin's (1971) arguments that expectancy and other "social and cognitive" factors such as information feedback of success could account for the effectiveness of the procedure.

A series of reports by Marks (1975, 1977, 1978, 1979) address the issue of therapeutic salience. The author felt that by systematic experiment, inert components could be discerned and discarded without impairing efficacy. He concluded that the essential element was extinction or the simple repeated exposure of the patient to the anxiety-evoking stimuli in the absence of the initial negative reinforcer. The etiology of phobias could be seen as failed extinction rather than enhanced acquisition.

Goldfried and Goldfried (1977) in a self-control variation of desensitization, found no difference in effectiveness between treatments employing speech-relevant or irrelevant hierarchies. Also, the desensitization procedures were found to be somewhat superior to a prolonged exposure treatment without relaxation.

Borkovec and Sides (1979) studied the contribution of relaxation training to desensitization. Compared to two "exposure" groups and a no-treatment control, desensitization resulted in increased imagery vividness, greater cardiovascular response within repetitious visualizations of scenes and across initial visualizations of increasingly anxiety-provoking scenes. More will be said of extinction procedures in a further section dealing with the techniques of Implosion, In Vivo desensitization and Flooding.

The expectancy set literature, as it relates to speech anxiety and SD, has produced partial substantiation of a non-specific therapeutic effect through the work of Hemme and Boor (1976), Woy and Efran (1972) and Kirsh and Henry

(1977). However, Slutsky and Allen (1978) failed to find a difference between SD administered in a clinical or a laboratory context. Both groups experienced significant anxiety reduction and the effectiveness of SD was most pronounced on the physiological variables. Borkovec and Sides (1979) had also found that a positive expectancy set had virtually no outcome effects on the SD of speech anxiety.

The next three groups of studies have focused on relaxation training, meditation or biofeedback procedures in addition to SD.

The following studies compared relaxation training to SD. Kondas (1967) in an early study using one self-report test found relaxation training to be more effective than no-treatment in independent samples of both college students and younger children. A group SD treatment was found to be equal to the relaxation treatment in effectiveness.

Gurman (1973) documented a case of successful treatment of speech anxiety with "cue-controlled" relaxation and In Vivo desensitization. In 1976, Russell and Wise compared SD and cue-controlled relaxation. Changes in self-report indices showed the relaxation and desensitization treatments to be equally effective and significantly more effective than the control treatment.

Kirsh and Henry (1979) introduced meditation into the SD procedure instead of standard relaxation training. A separate meditation and a standard SD treatment were also included and all treatments followed a self-control rationale. On self-report measures only, all treatments were found to significantly reduce anxiety as compared to a no-treatment control. Physiological change measures were less reliable.

Gatchel et al. (1979) compared SD with biofeedback procedures. When compared to SD, heartrate biofeedback was associated with less physiological responding, but all groups including a false heartrate Biofeedback group demonstrated a decrease in self-reported and overt anxiety. The results are said to demonstrate that the three component measures of anxiety , verbal, physiological and behavioral, are not always highly correlated.

In 1979, Barrios and Shigetomi produced a review of research in coping-skills training for the management of anxiety. Among 13 studies that dealt specifically with speech anxiety, the training techniques include applied relaxation, cue-controlled relaxation, self-control desensitization and self-statement modification. The last technique will be discussed in a further section.

The reviewers state that these programs are generally directed toward anxious individuals who do not possess skill deficits and they provide convergent support for the efficacy of coping-skills training over no treatment. Mixed results were obtained with regard to their superiority over traditional behavioral treatments and attention placebo control conditions, and with respect to generalization. Future applications in the field of prevention were encouraged.

The "extinction" hypothesis has engendered treatment procedures which focus on simple repeated exposure to the anxiety stimulus. One of these procedures, Implosion (Stampfl & Levis, 1967), is described as a covert extinction procedure. With or without prior training in relaxation, the subject is instructed to imagine the worst situation he/she can conceive of and, unlike SD, is instructed to practice holding the image as long as possible. The instructor may then proceed to add anxiety-producing elements. Having experienced a situation far worse than one can realistically encounter, the S becomes habituated and less anxiety is experienced in the future.

Generally, research results on other phobias has been equivocal (Mahoney, 1974) but in the few experimental applications to speech anxiety, results have been somewhat encouraging. Calef and MacLean (1970) showed both reactive inhibition therapy (Implosion) and SD to be more beneficial than no-treatment, but Blanchard (1971) criticized the study on design and statistical grounds. Mylar and Clement (1972) found SD and implosion independently to be better than no treatment on one of three self-report measures and a behavioral measure.

Kirsh, Wolpin and Knutson (1975) documented the superiority of Implosion over a placebo procedure on one behavioral and one self-report measure. The latter authors also employed Flooding procedures and an approach called Successive Approximation. The latter procedure resembles what is typically encountered in public-speaking classes. Students simply progress from simple to harder assignments. Flooding requires Ss to practice repeatedly on tasks equivalent to the top item on an SD hierarchy. This is the in-vivo counterpart to covert Implosion. In the Kirsh, Wolpin and Knutson study, all three procedures were found to be superior to an attention placebo group and equally effective among themselves.

Sherry and Levine (1980) examined procedural variables in Flooding while Weinberger and Engelhart (1976) compared SD and Flooding to conclude that behavioral measures did not distinguish between treatments but that the self-report measures seemed to favor SD slightly. There were no significant intergroup differences in improvement.

An interesting study by Hekmat, Lubitz and Deal (1984) suggests a paradigmatic intervention approach called Semantic Desensitization which is derived from Staats' (1975, 1981) paradigmatic behavioristic theory. Staat's theory renders prime significance to the role of language in the genesis, development and amelioration of a broad diversity of behavioral disorders. Within this approach, Ss received a self-instructional, anticipatory-anxiety hierarchy paired with visually-induced, relaxing, pleasant scenes. Unfortunately, the pairing sequence is insufficiently described. Before this pairing, Ss make a list of speech situations. They then share how they describe them and the type of label they assign to them as well as how they predict handling them. The "pairing" phase procedures are not clearly delineated and it is unclear how similar this procedure is to the cognitive restructuring approaches. Significant and maintained change along "subjective-emotional" and "objective-behavioral" lines are taken to represent support for Staats' theory.

Cognitive mediation.

The last line of investigation to be reported is the cognitive or rational restructuring approach. Each procedure stresses cognitive processes, emphasizes the need to alter the Ss thinking in order to reduce his/her symptoms, and provides direction about how thinking should be modified. Rather than approaching anxiety-reduction from a physiological point-of-view, it is the cognitive aspect of emotion which is privileged.

Cognitions are the symbolic or mental representations of actual events which are the mediators between these events and our behavior. Cognitions can be thoughts, images, internal verbalizations, attitudes, beliefs, expectations, dispositions, attributions. Mahoney and Arnkoff (1971) have documented the historical development of the cognitive therapies through what they call the "cognitive-behavioral interface". Reasserting the importance of consciousness, of reciprocal determinism and of the self-control process, a host of writers (Korzybski, 1933; Dollard and Miller, 1950; Rotter, 1954; Kelly, 1955;

Ellis, 1962; Beck, 1963; Homme, 1965; Cautela, 1966; Bandura, 1969; Goldfried, 1971; Lazarus, 1971; Mischel, 1973; Mahoney, 1974, etc.) paved the way for the development of the cognitive approach in psychotherapy.

The cognitive approach in general is housed within Social-learning theory as a unifying conceptual framework (Mischel, 1973). Genest & Turk (1981) provide reports of the validity of verbal reports of thinking. Meichenbaum and Cameron (1972a) have spoken of its limitations and Zajonc (1980) has reasserted the "primacy of affect". However, few would now question the fact that an awareness of cognitive mediating processes has proved useful in conceptualizing the process of psychological change (Mahoney, 1974; Meichenbaum, 1974; Merluzzi, Glass and Genest, 1981). Cognitive therapists have generally outlined treatment strategies that attempt to have the client interpret or construe a situation in an alternate way.

Some of the clinical research has focused on the role of erroneous interpretations of experience in the mediation of anxiety. Some of the main contributors (Ellis, 1962; Goldfried, 1971; Meichenbaum, Gilmore & Fedoravicius, 1971) have built on Schachter's theory of emotional response

(Schachter and Singer, 1962). This theory holds that "an emotional state may be considered a function of a state of physiological arousal and of a cognition appropriate to the state of arousal". High arousal states would lead to pressures to understand and label sympathetic nervous activity. The particular label chosen for such arousal depends upon situational cues "as interpreted by past experience". The two agents, physiological arousal and cognitive evaluation coact additively to account for the emotional experience. For example, a person who perceives himself as brave and assertive would interpret arousal experienced during interpersonal conflict as anger or hostility whereas a self-perceived coward would interpret such activation as fear or anxiety.

This cognitive evaluation or interpretation is also one of the mainstays of Ellis' (1958) explanation of emotional response. Both rational-Emotive Therapy (RET, Ellis, 1958) and Fixed-Role Therapy (Kelly, 1955) emphasize the re-interpretation of experience, allowing the individual to defuse his/her direct experience of anxiety. The Rational-Emotive approach presupposes that cognition and emotion are intimately linked and that irrational thoughts mediate the anxiety response. The objective is to substitute rational for irrational verbalizations (e.g. "It's impossible to be perfect; I'll do my best" instead of "It will be horrible if this speech makes me out to look dumb"). Therefore, personal interpretations of events that are cast in an absolutist or catastrophic mold are uncovered by means of philosophical persuasion. Fixed-role therapy is less dogmatic in its urgings and stresses practice in therapy. It is based on Kelly's theory of personal constructs and cognitive complexity. Fixed-role therapy has Ss discuss the roles they adopt while giving speeches as well as cognitions and feelings. RET has been more extensively studied in the experimental literature.

Goldfried and Trier (1974) have proposed an interesting reformulation of the desensitization procedure. Relaxation-training is perceived as a general and active coping skill which comes under greater client control. Hierarchies are multidimensional and imagery procedures involve a "coping" versus "mastery" model.

A particular version of cognitive restructuring which is closely related to RET and to the coping-skills approach espoused by Goldfried and Trier (1974) was developed by Meichenbaum (1969, 1971, 1972a, 1974; Meichenbaum et al., 1971). It is called Self-statement Modification and it focuses on greater client control of the technique of modifying self-statements (self-verbalizations or internal dialogue). The therapist attempts to provide a more explicit "insight-oriented" procedure. This procedure is focused on the role of maladaptive self-verbalizations which are considered to mediate the production of anxiety. The author proposes a more inductive counselling or therapy process than that which seems to be espoused by traditional RET practitioners. The client is encouraged to be directly involved in correcting his/her faulty thinking pattern through modifying self-statements. Individuals are seen as possessing unique "meaning attribution systems" and self-statements are their conscious representations.

Based on a sequential development model reminiscent of the work of Luria (1959, 1961) with impulsive children, Meichenbaum and colleagues elaborated strategies for increasing self- control. It had become imperative to develop procedures that promised greater generalization and maintenance effects. Therefore, combining Bandura's (1969) participant modeling procedures with a training method for self-modification of internal verbalizations, Meichenbaum hoped to achieve these greater effects. The sequential pattern of development inherent to the procedure of self-statement modification might be briefly described as follows:

An initial educational phase serves to introduce the participant(s) to the basic concept of duality in emotion, i.e. the physiological (or emotionality) and cognitive (or worry) components. Often Ellis' (1962) A-B-C- theory of the learning of emotional response is used for purposes of illustration. In the second phase, the counsellor or therapist attempts to facilitate greater individual awareness of personal belief systems through their most conscious manifestation, internal self-statements. The third phase consists of encouraging participants to challenge and dispute their less adaptive, anxiety-perpetuating self-statements, and in the final phase, individuals practice substituting these unadaptive self-statements with new, subjectively-chosen ones that lead to more positive or realistic behavior. This newly elaborated and personalized list of self-statements takes into account three or even four application phases: preparing before confronting a stressor, confronting the stressor, dealing with mounting anxiety and rewarding oneself after termination of the stressful event.

In the preceeding section, we have explored a number of somewhat related models of cognitive mediation in therapy. In the next section, we will examine outcome studies of structured approaches that have been used by cognitive therapists for the treatment of speech anxiety.

In a related but separate tradition, a small number of studies has incorporated a general "insight", group-centered, or group discussion treatment either as an experimental or a control condition (Paul, 1966; Giffin and Bradley, 1969; DiLoreto, 1971). Generally, the treatments are non-structured and are oriented toward the production of individual insight. With few exceptions, unstructured approaches do not prove more effective than no treatment or other more specific procedures.

Karst and Trexler (1970) and Trexler and Karst (1972) have explored the use of RET in the treatment of speech anxiety. In a replication of an initial study suggesting the superiority of RET and Fixed-role Therapy over no treatment control (1970), these authors compared RET to an attention-placebo comprised of relaxation training (1972). Using two control conditions and a variety of self-report and observational measures, results tended to support the therapeutic effectiveness of RET above placebo effects. RET was viewed as being superior, but this finding is based on only two self-report measures, one of which is designed to test the effects of RET specifically.

An additional subject variable was incorporated into a study by Morley and Watkins (1974). The locus of control personality construct (Rotter, 1954) was examined in interaction with two RET styles. The findings suggest that the direct disputing of client beliefs may facilitate the decrease of observable anxious behaviors among those clients who have an external locus of control even more so than those who have an internal locus of control.

The next three studies have attempted to assess the contribution of the sequential components of cognitive restructuring. Glogower, Fremouw and McCroskey (1978) divided 60 communication-apprehensive students (classroom discussion anxiety) into the following experimental conditions: a) extinction, b) insight into negative self-statements, c) knowledge and rehearsal of coping statements, and d) a combination of insight into negative self-statements followed by learning and rehearsal of coping statements. Using a low-anxious group to test the validity of the dependent measures (self-report and behavioral) and a no-treatment control, findings showed that the combination of components produced the largest improvement. While all components produced some improvement, the coping statement component was seen to be of primary importance.

In an attempt to study the contributions of overt instructional rehearsal (of productive self-statements) and insight to the effectiveness of "self-instructional training" (SIT), Thorpe, Amatu, Blakey and Burns (1976) compared the following treatments: general insight (RET), specific insight, instructional rehearsal and insight plus rehearsal. High school students participated in the study and were assessed using only self-report measures. Unlike the previous study's findings, it was concluded that "insight into unproductive thinking is a more important ingredient of SIT than the overt rehearsal of productive self-statements, at least in brief, analog treatment."

Claiming that the contribution of strategies incorporated in cognitive behavior therapy had been inadequately investigated, Dawson (1982) undertook to isolate the role of cognitive disputation (insight, Ellis, 1969) in the therapeutic process. Using physiological as well as self-report and behavioral measures, this author examined the effects of individual components (socratic dialogue, confirmatory exposure, inner speech modification and cognitive feedback) as well as various combination treatments. While weakness in the design (a small N; use of only one therapist) represent mitigating factors, findings pointed to the provision of insight into the general form of maladaptive self-statements as well as rehearsal of non-demanding goal-oriented self-statements as the most powerful strategies working towards behavioral change.

Socratic dialogue was associated with a deterioration of treatment effect observed in combined treatment conditions. While the preceeding three studies provide sometimes conflicting findings, they all address the "effective ingredient" issue. It would appear that the choice of procedures combining all essential steps would be the wisest course of action at the present time.

The cognitive restructuring strategy has also been compared to or combined with procedures employing a behavioral or physiological focus such as relaxation-training, BR or SD. Gross and Fremouw (1982) supported the effectiveness of cognitive restructuring and relaxation individually, compared to a wait-list control but only self-report measures discriminated between treated and untreated groups. It was observed that subtypes defined by low physiological reactivity performed poorly in progressive relaxation relative to cognitive restructuring. In a more exploratory study, Weissberg (1975) had treated two college students with relaxation augmented by the use of anxiety-inhibiting statements. He had found that warranting controlled comparative research, the combination might be a particularly effective treatment for speech anxiety.

Lent, Zamostny and Russell (1981) studied the relative effectiveness of cue-controlled desensitization, systematic rational restructuring and a credible placebo. In general, no differential changes emerged on treatment generalization or behavioral speech anxiety measures, but the desensitization procedure was more effective in reducing subjective speech anxiety at post-treatment assessment. Although rational restructuring produced few significant pre/post changes, it did lead to significant gains on several measures by follow-up.

The cognitive restructuring strategy has been compared to and/or combined with BR strategies in a small number of studies. In treating public-speaking anxiety in the classroom, Watson and Dodd (1983) compared the RET approach, SD and a communication skill-training program (social conversation, interviewing, group discussion, public speaking). Each method of treatment (over 4 months duration) produced significant differences from pre-treatment to post-treatment assessment, but no differential results were forthcoming. All groups received the classroom communication skills component. Discussion of results focused on the possible impact of the "Pygmalion" and "Hawthorne" effects.

In the present author's opinion, due consideration was not given to the hypothesis that communication skills training, a form of In-vivo desensitization or BR could equally account for the success of all treatments. In effect, BR is an active or latent part of all treatment strategies in this particular study. As explained in an interview given by A. Ellis and reported by Watson and Dodd (1983), RET would have people identify, dispute and challenge absolutistic, irrational beliefs but furthermore, it would encourage in-vivo desensitization "by sending them out to make speech after speech, until they see that they can do so competently and it is hardly the end of the world when they don't". Thus, BR and even skills-training may be a logical extension of RET though its immediate effects within the treatment programs are not controlled. The extent to which these two basic techniques overlap in any particular outcome study using RET is a question which may merit some consideration.

Another treatment modality which may involve in-vivo practice is Stress-Inoculation-Training. Developed mainly by Meichenbaum (Meichenbaum & Cameron, 1972b; Meichenbaum, 1975), this treatment package employs an educational and a skills application phase designed to introduce analog in-vivo experiences to complement discussion of shared experiences and instruction in Schachter's two-component theory of emotion. The initial phase invariably focuses on anxiety-provoking self- statements and their substitution. Investigating speech anxiety, Jaremko and colleagues (Jaremko, 1980; Jaremko et al., 1980) have offered empirical evidence of the potency of Stress-Inoculation-Training and of the therapeutic salience of the educational phase in particular.

Combined treatment.

Finally, a small number of studies have examined joint effects of SD and cognitive restructuring in a combined treatment program called Cognitive Modification. Lambert (1982) has endorsed further comparative treatment research of this nature. The underlying assumption of this approach is that "modifying both the autonomic arousal as well as the accompanying cognitive determiners or self-verbalizations should provide maximal change" (Meichenbaum, Gilmore & Fedoravicius, 1971, p.419).

In a related effort, Liebert and Morris (1967) have described test anxiety as consisting of two major components called worry and emotionality. For optimal therapeutic effect, modification of the client's cognitive determiners (worry) as well as the autonomic arousal (emotionality) has been suggested from research on emotion (Schachter, 1966; Schachter and Singer, 1962) and cognitive appraisal under stress (Lazarus, 1966). Indeed, Lazarus (1967) has made the contention that therapeutic intervention should address several modalities of an individual's functioning. Though not identical in terms of interpersonal demand characteristics, speech anxiety and test anxiety can be viewed as two instances of a more general performance anxiety. Broad theoretical and practical applications of the findings of Liebert and Morris can be justified on these grounds.

In a 1971 study, Meichenbaum, Gilmore and Fedoravicius compared group desensitization, group insight (self-statement modification) and a combined treatment called

Cognitive modification (CM) for alleviating speech anxiety of 53 Ss. A waiting list and attention-placebo group were also included and all were assessed using a variety of self-report and behavioral measures of anxiety given at post-treatment and later at a three-month follow-up. Proceeding from the rationale that addressing both the worry and emotionality components of speech anxiety should provide maximum benefit, the authors integrated two intervention strategies in a treatment (CM) thought to be superior to its individual components.

Results of the 1971 Meichenbaum et al. study based on all measures (overt and covert) indicated that the desensitization and insight groups were equally effective in reducing speech anxiety on a majority of dependent variables. They were found to be more effective than the combined version, which provided less consistent but general improvement. The hypothesis of greatest effect due to the combined treatment remained unsupported. A later study (1972) focusing on test anxiety and incorporating a coping-model to the desensitization imagery did support the hypothesis of greater effectiveness attributable to the combined treatment based on all measures except one. This superiority over a standard desensitization treatment was maintained at a one-month follow-up. Less consistent but general improvement was evidenced by the desensitization treatment group, which appeared significantly more improved than did the waiting-list control.

The 1971 Meichenbaum et al. study with speech anxious Ss addressed the question of interaction between treatment and type of anxiety that the present study will seek to replicate. The desensitization treatment appeared to be significantly more effective than insight treatment with Ss for whom speech anxiety was confined to formal speech situations; conversely, insight treatment appeared to be significantly more effective with Ss who suffer anxiety in many varied social situations. Also the authors summarized considerable evidence that methods which work well with specific phobias are often less effective with more pervasive problems. It may be noted that DiLoreto (1971) had reported SD to be more effective than client-centered therapy or RET for interpersonal anxiety. Therefore further examination of the issue of interaction between treatment and client variables seems warranted. Its clarification should allow us to make real progress toward greater accuracy and efficiency in selecting a compatible treatment for a specific client type (Kiesler, 1971).

Generally, the self-statement modification procedure has evolved from a series of studies undertaken by Meichenbaum and associates to investigate ways of modifying what clients say to themselves. Working with schizophrenics (Meichenbaum, 1969), impulsive children (Meichenbaum and Goodman, 1971), the aged (Meichenbaum, 1972b), non-creative clients (Meichenbaum, 1972c), disadvantaged children (Meichenbaum and Turk, 1972) and multi-phobic clients (Meichenbaum and Cameron, 1972b), the researcher(s) have emphasized the teaching of healthy self-talk.

The treatment manual from the 1972a study (Meichenbaum), from which teaching materials for the present study were adapted, states two goals: 1) to make the Ss aware of anxiety-engendering self-verbalizations they emitted both before and during speech situations, and 2) to train them explicitly to emit incompatible relaxation behaviors and incompatible self-statements that would facilitate appropriate behaviors. Incompatible self-statements would be similar to the self-talk of low speech-anxious individuals.

Discussion of the following points were designed to attain the first goal: a) the specific self-verbalizations group members had emitted in the pre-treatment speech situation; b) the range and commonality of evaluative situations in which they made the same or comparable self-verbalizations; c) the often irrational, self-defeating, and self-fulfilling aspects of such statements; and most important d) the behavioral and affective effects of the emission of such thoughts.

The second goal, that of self-instructional training to produce more adaptive incompatible self-statements, was attained by including a modification to the mastery-model of the imagery sequence in standard desensitization. Meichenbaum stressed the difference between the coping and standard mastery image in this way:

> In the standard desensitization treatment procedure, S is told to signal if the visualized image elicits anxiety and then to terminate that image and relax. The mastery imagery procedure is consistent with the principle of counterconditioning which pairs the S's state of relaxation with the visualization of anxiety-eliciting scenes. There is no suggestion within the standard desensitization procedure that S will in fact realize or experience anxiety in the real-life situation. The present coping imagery procedure has S visualize the experience of such anxiety and ways in which to cope and reduce such anxiety (Meichenbaum, 1972a, p.371).

If, as the author assumes, the benefit of the coping imagery in modified SD is that it allows Ss to covertly rehearse newly-discovered coping mechanisms, then actual speech practice should afford them the opportunity to overtly practice and consolidate the new learning.

Students in a pilot study undertaken by the present investigator have strongly suggested that practice making short speeches at the end of therapy sessions would have been somewhat stressful but almost certainly helpful in establishing more adaptive coping behaviors in their repertoire. Also, the work on applied relaxation (Osberg, 1981) and stress inoculation training (Meichenbaum and Cameron, 1972) has contributed to establishing an underlying rationale for the inclusion of a practice or rehearsal component to all treatments employed in this study.

It should be noted that Fremouw and colleagues (Fremouw & Harmatz, 1975; Fremouw & Zitter, 1978) had employed a cognitive restructuring-relaxation treatment that was similar in some respects to the combined treatment used in the present study in that the relaxation procedure was a self-control version (Goldfried & Trier, 1974) which incorporates suggestions for in-vivo application, a form of unsystematic exposure. It may be considered to be similar to the combined procedure of the present study, but in the present study, the added use of SD marshalls the powerful therapeutic tool of imagery in a systematic, graduated procedure within therapy. The systematic inclusion of speech practice within therapy or counselling sessions further augments this self-control variable. An added interesting feature of the Fremouw studies is the suggestion (based on non-significant trends) that the cognitive restructuring-relaxation procedure was more beneficial for high socially-anxious Ss than low socially-anxious Ss suffering from speech anxiety. The issue of interaction between treatments and the high/low social anxiety dichotomy is also addressed in the present study.

Finally, in two studies, the cognitive modification combination (combined cognitive restructuring and modified SD) was the subject of investigation. The Weissberg and Lamb (1977) study suffered from methodological inconsistencies (no placebo control, small N, one therapist), therefore findings regarding the slight superiority of cognitive modification (more effective in reducing general anxiety) can be considered tentative. This investigation did not purport to test the synergy hypothesis, as only standard desensitization and speech preparation were compared with cognitive modification.

Weissberg (1977) attempted to clarify the role of vicarious learning within the context of desensitization and cognitive modification. Results relating to the joint hypothesis proved inconclusive (non-significant), but the author reports that trends in the data point to the greater effectiveness of direct vs vicarious treatments, and to the greater consistency of the cognitive modification program in reducing both speech and generalized anxiety. In this investigation, desensitization, modified (coping) desensitization and cognitive modification were compared with a no-treatment control. Seventy-three students served as Ss and they were assessed at pre-treatment, post-treatment and follow-up (11 weeks later) using self-report and behavioral measures. As was the case previously, this study does not report a thorough attempt at measuring the synergy hypothesis, though it did examine the relative contribution of one component, modified desensitization, in comparison with the cognitive modification procedure.

Conclusion

In retrospect, many treatment methods have been applied to speech anxiety. Overall, these procedures have been shown to be beneficial but comparative treatment outcome and joint-effects studies provide contradictory results.

Specifically, the premise of synergistic effect attributable to linking a physiologically-focused approach with a cognitively-focused approach has received some support but remains an area for further investigation. Also, the concept of an application or consolidation phase as an adjunct to the procedures would seem to complement the learning of new strategies in such a way as to facilitate integration and maintenance. Although many researchers have included behavior rehearsal procedures in their speaking-skills acquisition programs, few studies have attended to this element in relationship to speech anxiety response-inhibition.

The further refinement of two substantial treatment approaches that differ in focus and the specific examination of the synergy hypothesis in the treatment of speech anxiety will therefore be the object of investigation in the present study. The target-problem of speech anxiety has been chosen because it is a specific and frequent manifestation of interpersonal performance anxiety in an academic setting. Because it is specific, it is more readily amenable to monitoring and assessment.

It may be noted that the decision to compare procedures from within the second clinical tradition (response-inhibition) was partly based on the present author's experience with the assertiveness training approach (skills-acquisition). Through this experience it seemed apparent that for some individuals, an important first step, mainly a direct attack on the subjectively-experienced anxiety, would have to be further developed before going on to speaking-skills training. Further clarifying the issue of therapeutic salience in this first step of treatment appeared to be a logical goal for research.

Perhaps more importantly the decision rested on a perceived need to contrast and combine a physiologically-based and a more recent but promising cognitively-based approach in order to clarify individual and synergistic treatment effects. This need arose also from some very convincing arguments expressed by researchers such as Meichenbaum (Meichenbaum et al., 1971; Meichenbaum, 1972; Behnke & Beatty, 1981) to the effect that a dual approach covering both angles of the subjective experience of anxiety (cognitive and physiological) might provide synergistic (greater than the sum of its parts) treatment effectiveness. Innovative methodology was to allow a true test of the synergy effect.

Desensitization appeared to be the best known and most well researched procedure from the literature relating to the physiological approach. Certain modifications would further enhance its effectiveness and interaction with a cognitively-based procedure. One of the soundest, most straightforward, practical and promising cognitively-based procedures is Self-statement Modification. Both Systematic Desensitization and Self-statement Modification, augmented and enhanced by a practice or application phase, were to be the treatments of choice for this investigation. Furthermore, the inclusion of research questions to help clarify specific client-treatment compatibilities (Kiesler, 1971) were viewed as an essential feature of comtemporary outcome research.

CHAPTER III

METHOD

In the previous chapter, the specific research focus of this investigation was outlined. Presently, the research methodology which was used in exploring research questions will be delineated. This chapter will begin with a description of the experimental design and a brief overview of related statistical analyses. Next, the treatments under investigation will be clearly described with the help of outlines for the treatment procedures. Experimental procedures will then be detailed, followed by elaboration on subjects, therapists and raters. Finally the measures will be described within dimensional groupings.

Experimental Design and Statistical Analyses

All primary and secondary research questions were put in the form of null hypotheses which were tested by means of Multivariate analyses of variance using a pre-treatment to post-treament (Pre/Post) or pre-treatment to follow-up (Pre/Follow-up) Repeated Measures format. This procedure of analysing Pre/Post or Pre/Follow-up differences is equivalent to analysing improvement or gain-scores. Improvement is considered to be reduction of anxiety from pre-treatment levels to post-treatment levels five weeks later or follow-up levels ten weeks later.

For examination of the primary research questions, data analysis was carried out using Repeated measures Multivariate analysis of variance in a two-way, two-level format. This format was employed in order to simplify analyses. This was achieved by defining a four-cell table of the treatment factors with presence or absence of Applied Self-statement Modification (SSM) and presence or absence of Applied Modified Desensitization (MD) on the horizontal and vertical axes respectively. A combined version of the two main treatments called Applied Cognitive Modification treatment (CM) and also an Attention-Placebo treatment (AP) were integrated into the four-cell design. Table 1 illustrates this two-way, two-level format.

The design allows for maximum power to evaluate the outcome of the two main treatments, SSM and MD, while the synergistic effect is evaluated through the interaction between the two treatment factors. The secondary null hypotheses were tested by adding a factor (Pre/Post and

Table 1

Four-cell Table of Treatment Factors Representing Two-way, Two-level Design Used in Data Analysis

		SSM Treatment	
		Presence	Absence
MD Treatment	Presence	CM (N=14)	MD (N=17)
	Absence	SSM (N=10)	AP (N=14)

Pre/Follow-up) to the independent variables, i.e. level of social anxiety, and examining multiple interactions with treatments.

A practice component was included to further enhance all treatments in this study, and more importantly, to provide for a true test of the synergy hypothesis in which all individual components and the combined form are similarly treated. In this respect, adequate controls over the "practice" variable should allow for a clearer examination of all individual effects (test of the therapeutic salience) and of a synergistic or joint effect (test of the enhanced effect over and above additive effects). The latter effect was statistically tested using an analysis format that correctly measures multiplicative or synergistic effects, i.e. an effect greater than that of adding the effects of all individual components. This statistical procedure does not appear to have been used in any of the relevant literature. It is hoped that such an examination of true synergistic effect will contribute to advancing our understanding of the essential curative components without which research-based, theoretically sound and highly efficient procedures cannot be isolated.

The use of a multivariate statistic was designed to take into account possible correlations between measures within separate dimensions. Verbal self-report and behavioral measures were considered to constitute two distinct dimensions of assessment. As well, measures of both chronic and acute speech anxiety were viewed as distinct from measures of social anxiety. Pre-treatment and post-treatment assessment covered all three sub-sets of measures, while follow-up assessment involved only chronic speech anxiety and social anxiety measures.

Preliminary analyses include examination of inter-rater reliability for the behavioral measures, intercorrelation matrices of all assessment measures and multivariate analysis of variance for sex differences and counsellor effect. Intercorrelations of pre-treatment, post-treatment and follow-up scores for all measures were computed in order to observe the relationships among the different types of measures and also, within each dimension of assessment.

All analyses were performed with the aid of an Amdahl computer, model 470/V8, located at the University of Ottawa. Dr. James Carlson's (1984) General Linear Model statistical analysis program for Multivariate Repeated Measures Designs as well as various BMD and SAS statistical packages provided the instrumentation for data analysis.

Treatments

The main criterion of improvement in this study is reduction of anxiety rather than speaking-skill acquisition. The application or practice component is added to the main procedures in order to consolidate learning of anxiety-reduction skills. Upon completion of the program, Ss were generally encouraged to pursue speaking skills courses if desired. The main therapeutic procedures were adapted from Meichenbaum's (1972) manual, while placebo procedures were based on general communication-skills counselling methods drawn from several sources. Summaries of the rationales and specific guidelines for all treatments were given to the counsellors and are shown in Appendix A. Also, counsellors used a detailed manual* adapted with permission from Meichenbaum's (1972a) manual of test anxiety.

Applied Cognitive Modification

The cognitive modification treatment procedures were designed a) to help Ss become aware of the anxiety-engendering thoughts and self-statements they emitted both prior to and during speech situations, and b) to train them explicitly to emit anxiety-incompatible self-statements that would facilitate task-attending and relaxation behaviors. Thus, the treatment was designed to facilitate a general awareness of both the internal and external cues which lead to task-irrelevant thoughts and anxious performances; to train Ss explicitly to emit task-relevant self-statements and to perform behaviors such as relaxation; to train them in the use of a covert self-modeling procedure incorporating a coping-model and mental rehearsal of task-relevant self-instruction to facilitate speaking.

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* A reprint of the adapted version of the manual may be obtained by writing to Diane Melanson, Counselling Services, Algonquin College, 1385 Woodroffe Ave., Nepean, Ontario, K2G 1V8.

In order to achieve these goals, the CM procedure integrated the desensitization process (imagery rehearsal) and the self-statement modification. Additionally, speech application or practice was designed to provide more thorough consolidation of the new learning. (This speech-application component is integrated into each treatment).

The use of slow deep breathing is emphasized within the desensitization procedure and a coping model is substituted for the mastery model in the visualization sequence. More precisely, Ss were asked to visualize coping as well as mastery behaviors. If they became anxious while imaging a scene they were to visualize themselves coping with this anxiety by means of slow deep breaths and self-instructions to relax and to be task relevant. The Ss were encouraged to use any personally-generated self-statements that would inhibit task-irrelevant thoughts. Only if the coping imagery techniques did not reduce their anxiety were they to signal the therapist, terminate the imagery and continue relaxing. They were to provide themselves with a model for their own behavior, one which dealt with the anxiety they were likely to experience in reality. They were to do so by rehearsing self-instructional ways of handling anxiety by means of imagery procedures. The underlying assumption here is that the closer imagery comes to represent real life experiences, the greater the likelihood of generalization.

For further information on the treatment procedure, the reader is referred to the section in the Appendix regarding rationales and guidelines as well as the following section. The summary outline for the CM treatment is as follows:

Outline of Sessions

Applied Cognitive Modification

Session I

1st part:
1. Introduction. Rules of procedure.
2. Discussion of presenting problem (20 min.)
3. Discussion of counselling rationale.

4. Situational analysis (behavioral breakdown of antecedents and consequences).
5. Explore other coping situations (ex. visit to the dentist, job interview).
6. Homework assignment... to be attentive to one's own internal dialogue.

2nd part:
1. Restatement of rationale for the use of relaxation as a way to cope with anxiety. Demonstration and Test for anxiety-provoking imagery (top item in a hierarchy).
2. 25-30 minutes of relaxation training.
3. 10 minutes devoted to discussion of feelings and problems experienced during relaxation.
4. Introduction to the nature of a hierarchy.
5. Discuss and complete construction of hierarchy.
6. Encourage students to practice relaxation at home at least 20 min./day, (twice if possible).

Session II

1st part:
1. Group feedback on observations re.

negative self-statements.

2. How to question and challenge self-statements (A-B-C-D-E- theory handout) (Recall how they combatted negative self-statements in other coping situations).
3. Discussion of coping self-instructions, to generate individualized lists.
4. If possible, begin training to practice positive self-instructions that are incompatible with the self-defeating self-statements of the past (by having Ss make brief speeches while attending to self-statements).

2nd part:

1. Discuss relaxation practice.
2. 15 min. of relaxation, combining muscle groups.
3. Test for imagery. 0-anxiety item.
4. Present desensitization items.
5. Discuss experience and problems with relaxation and desensitization.
6. Encourage students to practice relaxation at home, especially breathing exercises.

Session III

1st part:

1. Group shares feedback on individualized lists of self-instructions.
2. Discussion of coping techniques : Imagery rehearsal (for CM only), four phases in self-instructions, self-instructions to relax.
3. Handout - self-instructions based on four phases (Appendix C(1)).
4. Continue training to practice positive self-instructions.

2nd part:

1. Discuss relaxation exercises, reactions to hierarchy, etc.
2. Induce relaxation by accelerated method (mainly suggestion and breathing).
3. Present desensitization items, beginning with items introduced in last session.
4. Application phase (brief speeches), if there is time.

Session IV

1st part:

1. Group feedback.
2. Continue discussion and encourage Ss to practice new self-instructions.

3. Application phase.

2nd part:
1. Discuss relaxation (homework) and reactions to hierarchy.
2. Induce relaxation (15 min.)
3. Present desensitization items.
4. Application phase.
5. Give speaking skills handouts and invite to last session after study break.

Applied Self-statement Modification

The basic SSM procedure incorporates four phases. An initial educational phase serves to introduce the participant(s) to the basic concept of duality in emotion, i.e. the physiological (or emotionality) and cognitive (or worry) components. Often Ellis' (1962) A-B-C theory of the learning of emotional response is used for purposes of illustration. In the second phase, the counsellor or therapist attempts to facilitate greater individual awareness of personal belief systems through their most conscious manifestation, internal self-statements. In order to help Ss become aware of their own cognitive mediation, the following points were discussed: a) the specific self-verbalizations group members had omitted in the pre-treatment speech situations; b) the range and commonality of evaluative situations in which they made the same or comparable self-verbalizations; c) the often irrational, self-defeating, and self-fulfilling aspects of such statements; and most important d) the behavioral and affective effects of the emission of such thoughts.

The third phase consists of encouraging participants to challenge and dispute their less adaptive, anxiety-perpetuating self-statements, and in the final phase, individuals practice substituting these unadaptive self-statements with new, subjectively-chosen ones that lead to more positive or realistic behavior. This newly elaborated and personalized list of self-statements takes into account three or even four application phases: preparing before confronting a stressor, confronting the stressor, dealing with mounting anxiety and rewarding oneself after termination of the stressful event. As in all treatments, a speech practice phase was added to the basic procedure in order to help consolidate learning. The SSM treatment is further detailed through the rationales and guidelines offered in Appendix B and through the outline of sessions that follows:

Outline of Sessions

Applied Self-statement Modification

Session I

1. Introductions. Rules of procedure.
2. Discussion of presenting problem (20 min.)
3. Discussion of counselling rationale.
4. Situational analysis (behavioral breakdown of antecedents and consequences).
5. Explore other coping situations (ex. visit to the dentist, job interview).
6. Homework assignment... to be attentive to one's own internal dialogue.

Session II

1. Group feedback on observations re. negative self-statements.
2. How to question and challenge self-statements (Handout - Dynamics of a learned emotional reaction, Appendix C (1)). Recall how they combatted negative self-statements in other coping situations.
3. Discussion of coping self-instructions, to generate individualized lists.

4. If possible, begin training to practice positive self-instructions that are incompatible with the self-defeating self-statements of the past (by having Ss make brief speeches while attending to self-statements).

Session III

1. Group shares feedback on individualized lists of coping self-instructions.
2. Discussion of coping techniques: individualized self-instructions, in four phases.
3. Handout - Coping Self-statements based on four phases (Appendix C(1)).
4. Continue training to practice positive self-instructions.

Session IV

1. Group feedback.
2. Continue discussion and encourage Ss to practice new self-instructions.
3. Application phase.
4. Give speaking skills handouts (Appendix C (2)) and invite to last session after study break.

Applied Modified Desensitization

The MD treatment is based on procedures developed by Wolpe (1969) and it includes the three elements of relaxation training, group hierarchy construction and reciprocal inhibition of anxiety through the pairing of imaginal scenes with relaxation (visualization process). The S is instructed to deeply relax and to imagine the least threatening hierarchy situation. If the S begins to feel anxious, he/she is told to drop the image, focus on relaxation and try again. The S works up the hierarchy until able to relax while imagining the top hierarchy situation. Specific details follow guidelines set by Paul (1966, pp. 115-122) and Paul and Shannon (1966) for group desensitization. Examples of the rationale and guidelines given to the counsellors in the present investigation are located in Appendix A. Modifications to the desensitization procedure were based on Meichenbaum's (1972a) recommendations for a "coping" model in imagery sequences and a self-control version of relaxation-training. More precisely, the Ss were asked to visualize coping as well as mastery behaviors. If they became anxious while imaging a scene, they were to visualize themselves coping with this anxiety by means of slow deep breaths and instructions to relax and be task-relevant. The Ss were encouraged to use any personally-generated self-statements that would inhibit task-irrelevant thoughts. Only if the coping imagery techniques did not reduce the anxiety were they to signal the therapist, terminate the imagery and continue relaxing. They were to provide themselves with a model for their own behavior, one which dealt with the anxiety they were likely to experience in reality. They were to do so by rehearsing self-instructional ways of handling anxiety by means of imagery procedures.

The relaxation training used was a modified form of the Jacobson (1938) method including greater emphasis on deep breathing as an active coping skill. Ss were instructed to practice at home each day, using the shortened version as time went on.

Group construction of the 16-item temporal hierarchy permitted participants to tailor certain aspects of the imagery to make them individually relevant. (An example of a typical hierarchy is shown in Appendix B). The hierarchies were made up of situations related to public-speaking, from minimally to maximally anxiety-provoking. Generally, the sequence represented preparation and execution of a classroom presentation, but the group hierarchies were purposely made flexible and open for personalized variations in specific details. The visualization process included at least two presentations of each item using either mastery or coping images. Specific guidelines were given to the counsellors to supplement the basic manual. (This material can be found in Appendix A).

In the MD group, coping imagery focused on visualizing oneself overcoming anxiety. Though self-instructions to relax and remain task-relevant may have been present in individual Ss imagery, this self-instructional procedure was not a formal part of the training. During the last few minutes of each session, following the successful presentation of an item, Ss were aroused and general reactions to the procedure were discussed. In the last two sessions, a speech practice component allowed for the application of the new learning. An outline for the sessions in the MD treatment follows:

Outline of Sessions

Applied Modified Desensitization

Session I

1. Introductions. Rules of procedure.

2. Discussion of presenting problem (20 min.)
3. Statement of rationale for the use of relaxation as a way to cope with anxiety. Demonstration and test for anxiety-provoking imagery (top item in a hierarchy).
4. 25-30 minutes of relaxation training.
5. 10 minutes devoted to discussion of feelings and problems experienced during relaxation.
6. Introduction to the nature of hierarchy.
7. Discuss construction of a hierarchy.
8. Encourage students to practice relaxation at home at least 20 min./day. (twice if possible).

Session II

1. Discuss relaxation practice and complete construction of a hierarchy.
2. 15 min. of relaxation, combining muscle groups.
3. Test for imagery. 0-anxiety item.
4. Present desensitization items.
5. Discuss experience and problems with

relaxation and desensitization.

6. Encourage students to practice relaxation at home, especially breathing exercises.

Session III

1. Discuss relaxation exercises, reactions to hierarchy, etc.
2. Induce relaxation by accelerated method (mainly suggestion and breathing).
3. Present desensitization items.
4. Application phase, (brief speeches), if there is time.

Session IV

1. Discuss relaxation (homework) and reactions to hierarchy.
2. Induce relaxation.
3. Present desensitization items.
4. Application phase.
5. Give speaking skills handouts and invite to last session after study break.

Attention-Placebo

Only the Attention Placebo (AP) condition remains for further explicitation. This type of control procedure was retained because it was deemed strategic to the overall predictive validity of the study. Page (1978) had underlined the heuristic value of outcome research using an attention-placebo versus a no-treatment or waiting-list control group. Also, inclusion of both control groups would have been useful, but would have imposed greater limits on experimental group size. Issues relevant to the choice of an AP condition will be dealt with presently.

The procedure was viewed as a control for a) non-specific therapeutic (placebo) effects, b) the influence of internal interaction and growing familiarity among members of the group on post-treatment assessment of anxiety, and c) speech practice effects. Although some controversy subsists (Borkovec & Sides, 1979), substantial support for the role of demand characteristics or non-specific therapeutic effects (Truax & Carkhuff, 1967; Kazdin & Wilcoxon, 1976; Kirsh & Henry, 1979; Hemme & Boor, 1976; Woy & Efran, 1972; Grayson & Borkovec, 1978) warrants the use of such a control. As stated by Page, among others, "virtually any treatment will generate short-term results better than no treatment as a result of giving treated subjects more attention and as a result of creating a positive expectancy set... a strong attention-placebo frequently obviates a need for a no-treatment control"

(1978, pp. 5-6).

A second, perhaps more important justification for the use of a placebo group in the design relates to the fact that growing familiarity between subjects could account for reduction of anxiety between pre and post-assessment. This confounding element might serve to obscure differential results or report of effectiveness in the absence of differential results.

A third argument for adopting a placebo control in this study is to control for practice effects. Many authors have lent support to the concept of positive effects attributable to homework assignments (eg. Hebert, 1982) and to practice obtained within the actual treatment program. Lambert (1982) endorses the inclusion of a behavior rehearsal component to treatment regimens for unassertive behavior, as it has been clearly substantiated as a powerful tool for learning. Bandura (1969) and Mahoney (1974) have contributed much to our understanding of imitative learning and performance-based learning. Exposure or experience congruent with a desired belief can result in significant and rapid cognitive restructuring (Mahoney, 1974).

Based on these considerations, an important modification was brought to the standard treatment modalities, in that an application or practice component was integrated into all treatment regimens. A direct effort to measure application or practice effects was not considered the prime target of this investigation, but this element was viewed as an enhancement of the existing treatments and was controlled by incorporating it into the placebo-group as well. A strong positive expectancy set combined with a practice component would provide a strong control against which to test the specific treatment procedures and an ideal opportunity to consolidate the new learning.

In order to match in-therapy contact hours (8), and in order to offer Ss a credible procedure, a Discussion-Practice treatment was devised. This procedure was based on readily-available interpersonal communication exercises (Pfeiffer and Jones, 1969, 1973, 1974) and related assertiveness training repertoire (Jakubouski and Lange, 1976) as well as standard speech class procedures such as extemporaneous or spontaneous delivery of short unprepared speeches. The rationale, which is included in Appendix A, is based on the assumption that self-confidence as a speaker will grow as one develops self-confidence in general interpersonal communication skills. Subjects engaged in group discussion and participation in specific group exercises from ice-breaking to body-language skills.

All treatment groups were provided with handout material on various public-speaking skills from Speech Development to Body Language (Appendix C), but the AP group examined the handout material in a slightly more structured manner, as some of it was incorporated into the exercises. All experimental and control group members were encouraged to participate actively and attendance in this group remained as high as in the others. An outline of sessions follows.

Outline of Sessions

Discussion-Practice

Session I

10... 1. Rationale.

50... 2. First names. First impressions.

60... 3. Inane Topics. Objective: Speaking spontaneously - 3 min., using single-word cues (on cards). Experiencing the lighter side of speaking. (unstructured content).

Debrief after all participants have addressed the group.

Topics to be selected from a hat or distributed randomly on cards:

Snow
Kleenex
Turtles
Gloves
Leaves
Songs
Clothing
Bottle-openers
Posters
Paintings
Sounds
Food
Rain
Windows
Shovels

4. Handout on development of a speech. Instruct subjects that it will be of practical value for next class.

Session II

110... 1. Extemporaneous speaking. Spontaneous delivery, but some amount of structure. To practice paraphrasing and avoid memorizing or reading.

Background material: Magazines provided by counsellor.

Preparation time: 20 minutes max.

Speaking time per subject: 5 minutes.

10... 2. Handout on preparing reports, papers or essays for seminar or classroom presentation.

Session III

10... 1. Discussion of last handout content.

30... 2. Ball game exercise (ball to be provided by counsellor) to illustrate the controlling and influencing of communication in the context of group discussion (see Appendix E). Topics for discussion: (choose by consensus) The world of the arts, applying for jobs, competition in the market place.

60... 3. One-way vs two-way communication in a group. As many members of the group as possible have an opportunity (one at a a time) to communicate instructions to the group to draw a design or an object. At the same time, one of the group members will act as observer of the interaction and as animator of the de-briefing discussion. Instructions are given twice for two different drawings, once behind the group without dialogue or feedback, once in front of the group answering questions. Each sequence: Allow Ss to volunteer for positions of Instructor and Observer. 2 min. max. for one-way instruction. Instructor then displays original drawing or design.

5 min. max. for two-way instruction. (answering questions from group).

Instructor displays design.

Observer facilitates brief group discussion.

Overall discussion of experience to terminate exercise.

20... 4. Brain-storm on components of non-verbal communication and give handout on body language.

Session IV

15... 1. Discussion of Body Language handout.

15... 2. Subjects are to form triads to practice objective description of each other's non-verbal or body language. (See Appendix D). A pre-appointed observer briefly describes the body language of one of the Ss being interviewed by the other.

10... 3. Eye-contact circle.

To overcome difficulties in focusing eye-contact. Each subject walks around the inside of a circle formed by the other subjects and maintains eye-contact with each person for a few seconds.

70... 4. Impromptu speeches (on any topic): 5 min. followed by silent and anonymous written evaluations of speaker's body language by other subjects. Presenter or speaker self-evaluates and then one volunteer is asked to read evaluations in order to give feedback to presenter.

Note: Evaluations should focus on positive elements as much as possible. Encourage subjects to give feedback on progress the presenter has made from beginning of program to now.

10... 5. Partial closure with reminder to return after study break for measure of progress and important final session for further handout material on speaking.

Procedure

Subject selection was based on two factors: 1) indicating an interest in participating in group counselling for a total of 6 weeks for 2 hours each week (4 weeks of treatment); 2) meeting the screening criterion (a score of 16 or more points on the PRCS). The overwhelming majority of Ss were identified through a program of classroom presentations of approximately 10 minutes made by the investigator in the Fall Semester of 1983.

At that time, the general nature and scope of the research and counselling program was explained to potential volunteers. During these classrooms visits, the PRCS was administered to close to 1,000 students and on it, volunteers were asked to identify themselves. Students were told at this point that further contact would be made in the following week only if the selection criterion were met.

The next contact with selected volunteers was by telephone. The contacts were made by the investigator with the help of two M.Ed. (counselling) students. The object of the call was to confirm acceptability for the program and to afford the student the opportunity of choosing a convenient time period for the treatment program and assessment sessions. Eight time periods were available and Ss were asked to identify a second or third choice in case the original preference could not be met. Obviously, the particular treatment method employed in each time slot was not known by Ss. The few individuals who were identified through the newspaper ad were also contacted, informed of the general scope of the program and were seen for administration of the selection instrument. A letter of confirmation was sent to Ss over the Christmas holidays in order to remind them of dates, time and location for the program.

The beginning of the program coincided with the first week of classes for the Winter Semester. The setting for assessment and treatment was the teaching demonstration room at the Faculty of Education of the University of Otawa. An unobtrusive and efficient video-recording set-up allowed Ss to feel comfortable even though they were initially made aware of the location of the camera. Only the stress-condition test speech of the pre-treatment and post-treatment assessment sessions were video-taped. The setting might be seen as replicating typical settings in which students will be required to make formal presentations within the context of certain courses. The physical arrangement within the room for the four treatment sessions was slightly more informal, with chairs organized in a circle.

The pre-treatment assessment session was initiated with a brief review of the general nature and scope of the program. Introductions followed and a high expectancy set was induced by the investigator in a standardized manner across all treatment groups. Counsellors were not present at pre- and post-treatment assessment. Confidentiality was stressed and active participation was encouraged. The test speech was viewed as being necessary for research purposes, but also as a useful way for Ss to monitor their own progress. During the initial session, Ss were asked to complete three self-report inventories, one relating to specific speech anxiety of a chronic nature (SR) and two relating to a more general index of chronic social anxiety (FNE, SAD).

A stress-condition was then created by having Ss make a 4-minute test speech with the knowledge that the speech was being recorded. In certain cases, a small amount of prompting was required to obtain a complete four-minute sequence for each S. The audience consisted of other student participants in the counselling group who were asked not to give formal verbal feedback. Immediately prior to getting up to make the test speech, each S filled in the STAI (State form). This was done unobtrusively while the preceeding S was speaking. The topic of the speech was "What I Expect to Obtain from University Attendance" and before the test speeches began, Ss were given five minutes to reflect on what they might say. The other stress-condition measures (NV) were scored later by independent raters using the video-taped test speech. An effort was made to partly scramble recordings so that the raters were unaware of rating pre- and post-treatment speeches for the same S. They were also totally unaware of the hypotheses of the study. Immediately afterwards, Ss were observed and questionned to ascertain any traumatic effects of the required speech. Only one S was unable to complete the speech even with prompting and this S did not return for further sessions.

The four sessions (2 hours each) of counselling followed. The first and third sessions were audio-taped in order to provide subsequent monitoring of procedures, if questions arose relating to procedural sequence and interpretation of results of the treatment methods. During the counselling sessions, counsellor instructions were delivered under positive demand conditions. All counsellors were instructed to institute common expectations. A common conceptualization of the problem (general social-learning framework), and to use inductive participatory methods. Handout material* relating to verbal and non-verbal speaking skills was distributed to all three experimental groups toward the end of the counselling sessions, but was not explored within the counselling sessions except in the case of the AP condition where it was incorporated a little more explicitly.

The placebo group was equated with the experimental groups in terms of duration of the sessions, total number and frequency of sessions, uniformity of handout material, degree of therapist involvement and exposure to assessment procedures.

In the last or sixth week, post-treatment assessment was undertaken using the same self-report and stress-condition measures. An additional questionnaire was filled-in anonymously. The questions related to 1) general impressions (on a 5-point scale) of the usefulness of the sessions for overcoming speech anxiety and difficulties encountered in other social situations, 2) impressions of the counsellor's effectiveness, and 3) the degree to which the test-speech and handout material were considered helpful.

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* see Appendix C(2)

As with pre-treatment, the behavioral stress-condition measure was scored later by independent raters. The topic of the post-treatment recorded speech was "What I Expect to be Doing in the Future". The physical location, audience, and stress condition assessment procedures were identical to those in the pre-treatment assessment.

The 5-week follow-up assessment procedure was based on the same chronic self-report speech and social anxiety measures (PRCS, SR, FNE, SAD). Subjects were sent the questionnaires by mail and all returned the completed material, but the data for one S was incomplete. At this point, interested individuals were asked to indicate a desire for further follow-up in the return mail. A small number of Ss indicated such a desire and were seen further for individual assistance and/or information on their participation.

Subjects

Eighty-two students at the University of Ottawa in the Winter semester of 1984 were recruited from an initial pool of students who were informed of the project by means of a brief classroom presentation. Identification of potential participants also occurred through responses to an advertisement in the student's newspaper for a Speech Anxiety Counselling Program. Though the sample of the subjects came from all Schools and Faculties, an overwhelming majority were undertaking studies in Psychology or English. Most were in their first or second year of undergraduate attendance and none were enrolled in a Speech Communication class at the time.

Initial selection of candidates was performed using the Personal Report of Confidence as a Speaker (PRCS, Paul, 1966). 120 individuals or approximately 12% of all students who had been approached met both of the following criteria: 1) they indicated an interest in participating in the counselling program; 2) they were considered to be experiencing a significant amount of speech anxiety based on the selection instrument (a score of 16 or more on a total of 30). This criterion was chosen in an effort to replicate subject selection in previous research considered to be methodologically and theoretically sound (Paul, 1966). Only individuals who were sufficiently fluent in english and who manifested no stuttering or other speech problems were accepted. At the beginning of the program, 84 subjects (27 males and 57 females) presented themselves for pre-treatment assessment. Of these, 54 completed treatment and post-treatment assessment, while 53 completed follow-up assessment.

When initially contacted, selected subjects were asked to choose one of the eight time periods for the weekly treatments. This flexibility in time-tabling was necessary, in part, because the program was run on an extra-curricular basis and diverse time-tables were required to accomodate volunteer students. Assignment to treatment group and to a particular counsellor was therefore subject to a kind of natural random process based on time constraints and schedule preferences of the participants. This was done in order to encourage students to participate and on the premise that randomization would occur. Subjects who completed treatment had been assigned to one of the four treatment groups: a) applied cognitive modification (CM), N=23; b) applied self-statement modification (SSM) , N=17; c) applied modified desensitization (MD), N=24; and d) an attention placebo control treatment (AP), N=20. A post-treatment assessment was conducted after four weekly group sessions of 2 hours each. During the course of the program, 30 students dropped out for various personal reasons. Thus, 54 Ss (N for CM=13, N for SSM=10, N for MD=17, N for AP=14) attended all six group sessions. Their mean age was 24.9 yrs. (range: 18 to 49 yrs.) and the male/female ratio was: CM 8/5; SSM 9/1; MD 11/6; AP 8/6. Though previous outcome research in this area has not led us to believe that sex of subjects was an important variable, this source of variance was assessed.

Therapists and Raters

Four experienced counsellors (3 female, 1 male) from the area's high school and post-secondary system agreed to lead two groups each of either, CM, SSM, MD or AP. This was done in order to keep treatment group size down to an optimal level (8-10) for this particular kind of participative group coounselling. It also provided for partial randomization of treatment/counsellor assignment, so that each counsellor was assigned two different treatment conditions through a random procedure. Therefore, four treatments were assigned to four counsellors within eight time periods. The counsellor's ongoing working experience exceeded 6 years in every case. They agreed to participate in this project out of professional interest, and were completing course requirements for the M.Ed. in counselling at the University of Ottawa. In every case the experience was not required to complete practicum exigencies, but was freely entered upon with a view to perfecting procedural skills rather than establishing micro-counselling ability. This basic ability was considered to be well established, with 6, 6, 12 and 19 years of experience in the helping relationship profession for the respective counsellors.

Training of the therapists was ensured through the use of a very complete treatment manual, adapted with the author's permission, from a manual developped by Meichenbaum (1972: study of test anxiety). Also, a total training period of 14 hours over four weeks allowed the counsellors to discuss and readily digest the standardized treatment instructions. The training period included a pilot session (4 hours) led by the present investigator for

6 teacher training students (B. Ed.) and during which the four counsellors participated as active observers. This training session incorporated the main procedural steps involved in SSM and MD. The two counsellors who were designated to lead an attention-placebo group were experienced in the communication-skills training method that was used. A further session for each of these counsellors completed the training period to their satisfaction.

Three raters, also students in the M.Ed. program (1 female, 2 males) agreed to evaluate non-verbal anxiety responses of subject's video-taped pre-treatment and post-treatment speeches. All raters were experienced in the helping relationship. Stress-condition (test-speech) measures were taken from a video-taped recording rather than live within the existing audience of group participants in order not to induce excessive anxiety in the Ss. Previous research has alerted researchers to the sensitizing influences of this practice (Kern, 1984).

Measures*

Prior research generally accepted as methodologically sound (Paul, 1966; Meichenbaum et al., 1971) has followed the desirable practice of including multiple measures of change, representing the various response-systems of the individual (Bergin, 1971; Kiesler, 1971). However, a growing body of conflicting evidence points to the possible irrelevance of physiological measures (Lamb, 1972; Behnke & Beatty, 1971; Karst & Most, 1973; Monti et al., 1983; Twentyman, Gibraltar & Inz, 1979). This is not related to the frequent finding of somewhat low intercorrelation between self-report and behavioral indices which has either been attributed to a naturally-occurring desynchrony in response systems, to the worry/emotionality dichotomy or to the doubtful validity of the ratings (Lamb, 1978; Cradock et al., 1978; Halford & Foddy, 1982).
Rather, it may be related to the fact that subjective experience of anxiety is differentially interpreted and labelled (Behnke & Beatty, 1971) by different individuals. The organization of fear responses and the order of their

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* Examples of all assessment instruments are located in Appendix D.

change seem to be idiosynchratic to the subject and perhaps to the treatment method employed (Lang, 1969).

Due to considerations regarding the equivocal nature of physiological indices of subjective anxiety reduction, only verbal self-report and behavioral measures were taken. Pre- and post-treatment stress condition measures (verbal and behavioral) were taken as well as pre-treatment, post-treatment and follow-up batteries of self-report measures. In adition to the self-report measures of specific speech anxiety, general social anxiety measures were also taken.

Pre and Post-treatment Stress Measures

1) The State-Trait Anxiety Inventory (STAI), State-form(Spielberg, Gorsuch & Lushene, 1970) requires Ss to indicate how they feel at a given moment in time. It incorporates 20 items. It was used in this study as a measure of how Ss feel immediately prior to making a speech. It is therefore considered to be a stress-measure of speech anxiety. The authors report a high degree of internal consistency with alpha coefficients ranging between .83 and .94. Stability coefficients (test-retest reliability) tend to be low, as would be expected for a measure designed to be influenced by unique situational factors existing at the time of testing.

For this same reason, the meaning of concurrent validity indices is a controversial issue. The authors (1970) have given evidence of relatively high correlation with the Cornell Medical Index (.57 to .79) and the Minnesota Multiphasic Personality Inventory (Hathaway & Meehl, 1951). Correlations were higher for certain subscales (.57 for the D scale, .79 for the Pt scale and .71 for the Sc scale) which reflect high levels of acute anxiety. Lamb (1972) has reported a correlation of .75 with his Speech Anxiety Inventory, A-State Scale. A lesser correlational relationship (.47) exists with the Multiple Affective Adjective Checklist (Zuckerman & Lubin, 1965).Reports of construct validity are sufficiently adequate based on examination of scores given under relaxed or stressful conditions. Lamb (1972) has expressed the importance of employing a specific state anxiety measure along with general trait measures of anxiety.

2) Rating Non-Verbal Behavior (NV) lists five categories of non-verbal anxiety behaviors. The object is to measure degree of anxiety manifested through eye-contact, gestures, posture, facial expression and voice. The ratings were derived by three raters from video-taped recordings of the pre and post-treatment test speeches.

Recordings of pre and post-treatment test speeches were partly scrambled and raters were unaware of the hypotheses of the investigation.

This rating scale was adapted from Paul's (1966) Timed Behavioral Checklist as well as from a rating scale used by Piccinin, McCarrey and Chislett (in press) in a study on social skill training. The rationale for the modification was based on the belief that Paul's original TBC contained too many categories of anxiety behaviors and insufficient time to make accurate judgments. The scale was therefore simplified (five categories from the original 20) and modified to a 3-point answer format from good to adequateto poor. The original repeated measures format (all 20 behaviors were rated each minute) was deleted in favor of a 4-minute time frame for the judgments and an additional global estimate of overall impression for each subject on a 5-point scale. Though internal validity indices of the original TBC were quite favorable, it was felt that the modified scale would be easier to score and much more practical. It provided two measures: 1) a combined score based on all five categories and 2) a global estimate.

Pre and Post-treatment and Follow-up Self-report Measures of Specific Speech Anxiety

These measures were designed to measure self-perceptions of chronic speech anxiety.

1) Paul's Personal Report of Confidence as a Speaker (PRCS, 1966) is an adapted short form of Gilkinson's original measure (1942). The PRCS is a 30-item, self-report true or false inventory of each S's confidence and ability in making a speech before an audience. It has been very frequently used in research on speech anxiety (Meichenbaum, 1971; Trexler & Karst, 1972; Mylar & Clement, 1971; Goldfried & Trier, 1974, etc.) and predictive and construct validity have been demonstrated. The scores correlated .72 with other self-ratings of confidence and.69 with self-ratings of fear (Gilkinson, 1942). A split-half reliability coefficient of .93 had been found by the originator of the scale.

2)The S-R Inventory of Anxiousness (Endler, Hunt & Rosenstein, 1962) separates stimulus situation from response in its format. It provides a self-report 5-point rating scale for 14 statements related to the situation "You are getting up to give a speech before a large group". Also, this situation is one of 14 specific contexts for the measurement of anxiety. The statements refer to subjective experience of arousal and cognitive appraisals of the situation. They were chosen to represent positive and negative excitement or drive (Olds, 1955), perceptions of physiological responses and some of the complaints (K & L) that have apparently been diagnosed in the MMPI (Hathaway & Meehl, 1951) and in the Taylor Manifest Anxiety Scale (Taylor, 1953).

A factor analysis of the 14 mode-of-response statements revealed 3 factors: Distress/avoidance, Exhibition/Approach and Residual Autonomic Responses. Reliability indices ofthe total score have been as high as .95 and .97. The alpha reliability of the 14 mode-of-response statements across all situations, ranged from .59 to .93. Among comparisons with assessment instruments purporting to measure anxiety, statistically significant positive relationships are found with the 1952 Mandler & Sarason Test Anxiety Questionnaire (.44 to .66) and a somewhat lesser relationship is found with the Taylor Manifest Anxiety Scale (.40 to .46) as well as the Social Avoidance and Distress scale (.45; Watson & Friend, 1969).

Pre and Post-treatment and Follow-up Social Anxiety Measures

1) The Fear of Negative Evaluation Scale (FNE) is one of two self-report scales of the Social Anxiety Scale (SAS) developed by Watson and Friend (1969). It uses a true-false response format. It is a 30-item assessment tool designed to measure fear of receiving negative evaluation from others. It was included to help assess the range of treatment effects. Extensive and adequate concurrent and construct validity is reported by the authors for both sub-scales. The test-retest correlation for the FNE has ranged from .78 to .94.

2) The Social Avoidance and Distress Scale (SAD) is a28-item measure of distress, discomfort, anxiety etc. in varied social situations and the deliberate avoidance of such situations. It was used in this study both as a dependent measure and as the assessment tool to discriminate between high and low socially-anxious Ss. Its test-retest reliabilities have ranged from .68 to .79. Both sub-scales have been extensively used in behavioral research.

In summary, the following instruments were used to assess treatment effects:

Pre and Post-Treatment Stress Measures (acute)

1. The State-Trait Anxiety Inventory, State form (STAI) (self-report)
2. Rating Non-Verbal Behavior (NV) (behavioral)
    i) Composite (NVC)
    ii) Global (NVG)

Pre and Post-Treatment and Follow-up Self-report Speech Anxiety Measures (chronic)

1. The Personal Report of Confidence as a Speaker (PRCS)
2. The S-R Inventory of Anxiousness, speech item (SR)

Pre and Post-Treatmernt and Follow-up Self-report Social Anxiety Measures (chronic)

1. The Fear of Negative Evaluation Scale (FNE)
2. The Social Avoidance and Distress Scale (SAD)

CHAPTER IV

RESULTS

Results of data analysis will be presented in this chapter, while discussion of implications will be the subject of a subsequent chapter. The present chapter begins with a restatement of the basic design, an examination of preliminary analyses covering the matter of reliability of one of the measures, inter-measure correlations, sex differences and counsellor/therapist effect. Next, the primary analyses of treatment effectiveness are reported through three separate data sets. Subsequently, report is made of results related to interaction between treatments and the client variable of social anxiety.

Because of the extensive use of abbreviations for groups and measures throughout the next two chapters, the reader is immediately referred to Table 2 for identification purposes.

For examination of the primary and secondary research questions, data analysis was carried out using Repeated Measures multivariate analysis of variance in a two-way,

Table 2

Abbreviations

	Treatment Groups
SSM	Applied Self-statement Modification
MD	Applied Modified Desensitization
CM	Applied Cognitive Modification Treatment
AP	Applied Attention-Placebo Treatment
	Self-report Measures
PRCS	Personal Report of Confidence as a Speaker
SR	S-R Inventory of Anxiouness
STAI	State-Trait Anxiety Inventory
FNE	Fear of Negative Evaluation Scale
SAD	Social Avoidance and Distress Scale
	Behavioral Measures
NVC	Non-Verbal Composite Scale
NVG	Non-Verbal Global Scale

two-level format in order to simplify analyses. This was achieved by defining a 4-cell table with presence or absence of SSM and presence or absence of MD on the horizontal and vertical axes respectively. Table 1 from the Method Chapter illustrated this format.

The design allows for maximum power to evaluate the outcome of the two main treatments SSM and MD, while the synergistic effect is evaluated through the interaction between the two treatment factors. The secondary research questions were examined by adding a third factor to the independent variables, i.e. pre-treatment level of social anxiety, and examining multiple interactions with treatments. Within each assessment dimension, a multivariate statistic was used in order to take into account possible correlations between measures.

Preliminary Analyses

Inter-rater Reliability of the Behavioral Measures

An examination of inter-rater reliability scores for the two Non-Verbal Anxiety Scales (NVC, NVG) revealed some consistency of intercorrelation (Pearson product-moment) between all three raters. As indicated in Table 3, correlations between individual raters were frequently found to be significant, but were deemed to be unacceptable in terms of establishing the reliability of the instrument. Though preliminary analyses did not include these variables because of low reliability and presumed random contribution to variance, it is noteworthy that they still allowed for significant differences to be found in analysis of Pre/Post treatment effects.

Supplementary correlational analyses were done incorporating averaged groupings of raters (1 + 3, 2 + 3, 1 + 2 + 3). This was based on the observation that the range of scores used by rater two was more restricted and might not allow for a meaningful interrelationship. This same rationale had been used in adding a third rater to the assessment procedure. Results, however, were similar for all three groupings and the final score for each S and each measure (NVC and NVG) was taken to be an average of all three.

Inter-measure Correlations

Table 4 represents correlations between all measures from the pre-treatment assessment. Results illustrate highly significant correlations among the verbal self-report measures, but clearly lower correlations between verbal self-report measures and behavioral measures. It is noted that the self-report and behavioral measures are expected to correlate negatively because behavioral measures are scaled in a decreasing manner. The

Table 3

Correlations Between Raters[a] on Both Non-Verbal Measures (NVC, NVG) in Pre and Post-treatment Assessments[b]

Measures	NVC1	NVC2	NVC3	NVG1	NVG2	NVG3
NVC1		.424 (.0014)	.615 (.0001)	.871 (.0001)	.465 (.0004)	.488 (.0002)
NVC2	.199 (.1493)		.552 (.0001)	.365 (.0066)	.757 (.0001)	.519 (.0001)
NVC3	.299 (.0280)	.350 (.0094)		.546 (.0001)	.525 (.0001)	.842 (.0001)
NVG1	.895 (.0001)	.121 (.3851)	.279 (.0414)		.406 (.0023)	.473 (.0003)
NVG2	.032 (.8185)	.656 (.0001)	.303 (.0260)	-.063		.472 (.0003)
NVG3	.242 (.0774)	.343 (.0110)	.881 (.0001)	.224 (.1027)	.222 (.1062)	

Note. Pre-treatment correlations are indicated over diagonal.
Post-treatment correlations are indicated below diagonal.
Entries read: Correlation
(Probability)

[a] Individual raters are identified as NVC1, NVC2, NVC3, or NVG1, NVG2, NVG3.

[b] N=54

Table 4

Correlation Matrix for Pre and Post-treatment Assessment[a]

	Verbal self-report					Behavioral	
	Speech Anxiety			Social anxiety		Speech anxiety	
	PRCS	SR	STAI	FNE	SAD	NVC	NVG
PRCS		.502 (.0001)	.409 (.0021)	.367 (.0064)	.154 (.2657)	-.256 (.0620)	-.184 (.1836)
SR	.713 (.0001)		.501 (.0001)	.453 (.0006)	.448 (.0007)	-.184 (.1823)	-.178 (.1977)
STAI	.679 (.0001)	.621 (.0001)		.508 (.0001)	.436 (.0010)	-.220 (.1098)	-.179 (.1944)
FNE	.566 (.0001)	.485 (.0002)	.460 (.0005)		.441 (.0008)	-.229 (.0964)	-.263 (.0546)
SAD	.617 (.0001)	.508 (.0001)	.525 (.0001)	.569 (.0001)		-.044 (.7534)	-.124 (.3707)
NVC	-.196 (.1561)	-.152 (.2736)	-.245 (.0739)	-.191 (.1671)	-.244 (.0760)		.908 (.0001)
NVG	-.165 (.2325)	-.159 (.2505)	-.193 (.1611)	-.196 (.1551)	-.258 (.0594)	.899 (.0001)	

Note. Pre-treatment correlations are indicated over diagonal.
Post-treatment correlations are indicated below diagonal.
Entries read: Correlation
(Probability)

[a] N = 54

correlation between the two non-verbal measures is highly significant because the NVC and NVG are composite and global measures of the same phenomenon. Intercorrelations between verbal speech and social anxiety measures are significant and higher than those between verbal and non-verbal anxiety measures but lower than those among verbal speech anxiety measures alone.

Counsellor/Therapist Effect

A multivariate Analysis of Variance (MANOVA) of post-treatment assessment scores from verbal self-report measures was used to determine significant effect due to the therapist, based on consideration of differential non-specific therapeutic qualities. No significant differences were found with the use of Wilks' Multivariate lambda (Λ) criterion, (5, 3, 49) (Cooley and Lohnes, 1962). The attained value of .606 failed to fall under the critical value of .580 at the .05 level of significance. In order to reach significance, the attained value of Wilks' lambda must be less than the critical value.

Sex Differences

Though the sex of the subjects was not expected to contribute a significant amount of variance, this variable was examined with a MANOVA on post-treatment assessment data using verbal self-report measures. No significant differences were revealed with a Wilks' lambda value of .913 which failed to fall under the critical value of .785 at the .05 level of significance. Rao's F-approximation (5,47; Rao, 1973) yielded a value of .493, $p<.89$. In this case as in all analyses except therapist effect, Rao's F is an equivalent test to the Wilks' lambda criterion because degrees of freedom for the hypothesis do not exceed 1. Consequently, in order to simplify the reading of results in table form, only F-test values will be reported. Within the text, both F-test and lambda values will be reported.

Primary Analyses

This group of analyses was designed to test the primary research questions of this study pertaining to relative effectiveness or differential treatment effects on speech anxiety. Assessment of general social anxiety was not a consideration at this point. Individual treatment effects were examined using appropriate contrasts between dyads of the four treatments: a) treatments containing SSM versus treatments not containing it, or SSM + CM vs MD + AP; b) treatments containing MD versus treatments not containing it, or MD + CM vs SSM + AP. The synergistic effect (SSM by MD interaction) can be considered as a test that the difference between presence and absence of MD is the same when SSM is present as when SSM is not present. That is, the CM-SSM difference equals the MD-AP difference.

Pre and Post-treatment Analysis of Verbal Speech Anxiety Measures.

A Repeated Measures MANOVA of Pre-treatment and Post-treatment scores (Pre/Post) for all groups on the verbal self-report measures of chronic and acute speech anxiety reveals no significant difference between groups. Wilk's multivariate lambda (Λ) criterion was not reached for any of the null hypotheses except the overall (averaged) Pre/Post difference. In this case, the lambda value of .215 was significant, $p < .01$. For significance, the lambda value must not exceed the critical value of.764. Confirmation of the Pre-Post significance was found in Rao's F-approximation (F (3,44) = 53.66, $p < .0001$) for differences of 7.30, 10.18 and 17.67 for PRCS, SR and STAI measures respectively.

The Pre/Post means are displayed according to treatment groups in Figure 1 in order to illustrate the interrelationship between groups. The means and Pre/Post differences are presented in Table 5. A Repeated Measures MANOVA was employed to assess the significance of these differences. For the SSM, MD and synergy effects, the lambda statistic exceeded the critical value (.831) at the .05 significance level with values of .85, .97 and .85 respectively.

Table 6 reports the Repeated Measures MANOVA of PRCS, SR and STAI scores with Rao's F-approximation values. It may be noted that Rao's F-approximations for testing null hypotheses concerned with the SSM main effect and SSM x MD interaction approach significance at $p<.07$ and .06 respectively.

An examination of the relevant contrast in means leads to the suggestion that SSM treatment benefited Ss more while the combined CM treatment benefited Ss less than the summed effects of SSM and MD. In other words, treatments incorporating SSM may have fared better than those not employing this technique. Also, the direction of the interaction effect was counter to that expected. The mean differences, CM-SSM, are negative for all three dependent variates, whereas those for MD-AP are all positive.

The above mentioned effects can only be seen as tentative findings but they are reported because they

Table 5

Pre and Post-treatment Means of Verbal Speech Anxiety Measures as a Function of Treatment Type

Measures		CM	SSM	MD	AP
		Treatments			
PRCS	Pre	21.71	20.48	22.54	19.31
	Post	13.06	10.81	16.66	13.58
	Diff	8.65	9.67	5.88	5.73
SR	Pre	44.94	49.00	47.87	40.58
	Post	36.46	33.90	38.56	32.81
	Diff	8.48	15.10	9.31	7.77
STAI	Pre	61.06	65.24	63.56	58.38
	Post	43.33	39.73	46.65	47.86
	Diff	17.73	25.51	16.92	10.52

coincide with limited but statistically significant results obtained with further analyses.

Before going on to these analyses, it should be noted that separate Repeated Measures Pre/Post and Pre/Follow-up multivariate analyses which included all verbal self-report measures (speech and social anxiety) did not reveal

Table 6

Summary of Repeated Measures Multivariate Analysis of Variance for Treatment Effects: Pre and Post-treatment Verbal Speech Anxiety Measures

Source of Variation[a]	Rao's *F*	df	*p*<
Overall Pre/Post difference	53.66	3,44	.0001**
Pre/Post x SSM (main effect)	2.51	3,44	.07
Pre/Post x MD (main effect)	.45	3,44	.72
Pre/Post x SSM x MD (synergistic effect)	2.65	3,44	.06

Note. [a]*n*= 10 for SSM, 17 for MD, 14 for CM, 13 for AP.
**p*<.05
***p*<.01

significant differences between groups. Univariate results for the two social anxiety measures (FNE and SAD) revealed rather high random contributions to variance for hypotheses of differential effectiveness. Lowest probabilities associated with the univariate *F*-statistics for the various hypotheses were .35 for the FNE and .39 for the SAD. Therefore, it would seem that social anxiety generalization

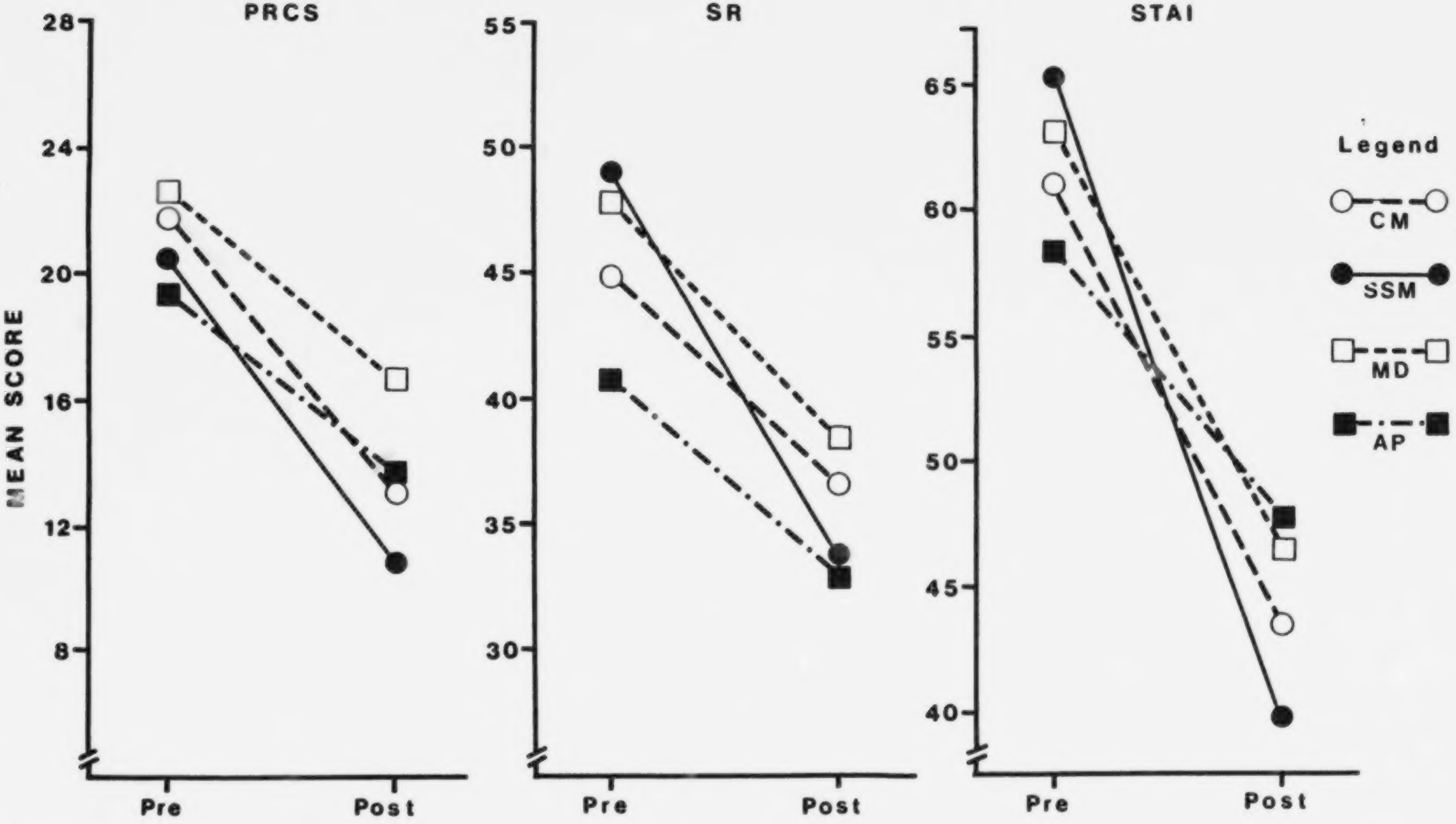

Figure 1. Pre- and Post-treatment means of verbal speech anxiety measures as a function of treatment type.

measures were not susceptible to systematic change due to differential treatment effects. Based on these separate analyses, overall Pre/Post and Pre/Follow-up differences were however found to be highly significant. Rao's _F_-approximation for the Pre/Post multivariate analysis (averaged accross groups) was found to be significant, (_F_=(5,46) = 33.207, _p_<.0001). Univariate _F_-tests for FNE and SAD were also significant at _p_<.0001 for the averaged treatment effect based on differences of 6.96 and 4.28 respectively. Similar Pre/Follow-up multivariate analyses for averaged treatment effect indicate an _F_-value (4,46) of 35.37, _p_<.0001.

Pre and Post-treatment Analysis of Behavioral Speech Anxiety Measures

The second major data set to be subjected to scrutiny contained the behavioral measures NVC and NVG. As previously explained, NVC represents a composite non-verbal anxiety rating, while NVG is its global rating counterpart. The poor reliability of these rating scales would appear to seriously undermine their ability to detect significant differences. Nonetheless, significant differences were found using these measures and the results are of some interest because they coincide with tentative findings from Pre/Post analyses of verbal speech anxiety measures. Only Pre/Post differences were studied within the analyses of behavioral measures, as these measures had not been included in the Follow-up assessment. These means and differences are presented in Table 7 and Figure 2. A Repeated Measures MANOVA of behavioral data revealed a significant SSM x MD interaction. Table 8 presents significance test results with _F_-approximation values. It should be recalled that significance tests apply to contrasts between groups incorporating or omitting a particular treatment component (SSM _or_ MD).

The lambda value of .854, was significant at $\underline{p}<.05$ for the SSM x MD interaction. Also, Rao's _F_-statistic (2,45) of 3.85, was significant at $\underline{p}<.03$. Both NVC and NVG are highly correlated with the discriminant function (NVC r= .71; NVG r= .99) for this interaction effect. Means for the control (NVC and NVG) and combined (NVG) groups are seen to be inverted as compared to SSM and MD means. They indicate positive Pre/Post differences signifying that anxiety has increased.

The direction of the difference was therefore, not as expected. The CM-SSM difference was negative whereas the MD-AP difference was positive. This finding mirrors the

Table 7

Pre and Post-treatment Means of Behavioral Speech Anxiety Measures as a Function of Treatment Type

	NVC Measures				NVG Measures			
Treatments	CM	SSM	MD	AP	CM	SSM	MD	AP
Pre	16.96	15.61	14.95	15.89	3.29	2.52	2.60	2.85
Post	17.10	16.52	16.31	15.72	3.02	2.93	3.05	2.63
Diff	-0.12	-0.91	-1.36	0.17	0.27	-0.41	-0.45	0.22

previously-cited tentative findings derived from analysis of verbal speech anxiety measures. The postulated synergy effect hypothesis appears to be reversed.

Pre-treatment and Follow-up Assessments in the Analysis of Verbal Speech Anxiety Measures

The Pre-treatment and Follow-up assessment data set (verbal, chronic speech anxiety measures) was examined with the help of a third Repeated Measures Multivariate Analysis of Variance. Means, Pre/Follow-up differences and MANOVA

Table 8

Summary of Repeated Measures Multivariate Analysis of Variance for Treatment Effects: Pre and Post-treatment Behavioral Speech Anxiety Measures

Source of variation[a]	Rao's F	df	p<
Overall Pre/Post difference	2.37	2,45	.10
Pre/Post x SSM (main effect)	.02	2,45	.96
Pre/Post x MD (main effect)	.52	2,45	.60
Pre/Post x SSM x MD (synergistic effect)	3.85	2,45	.03*

Note. [a] n= 10 for SSM, 17 for MD, 14 for CM, 13 for AP.
*$p<.05$

results are presented in Figure 3 and Tables 9 and 10, respectively. Overall Pre/Follow-up differences were significant, but more importantly, the SSM treatment effect proved to be significant. The lambda value of .859, fell within limits for .05 probability, and Rao's F-statistic (2,44) was 3.60, $p<.04$. Once again, it is important to

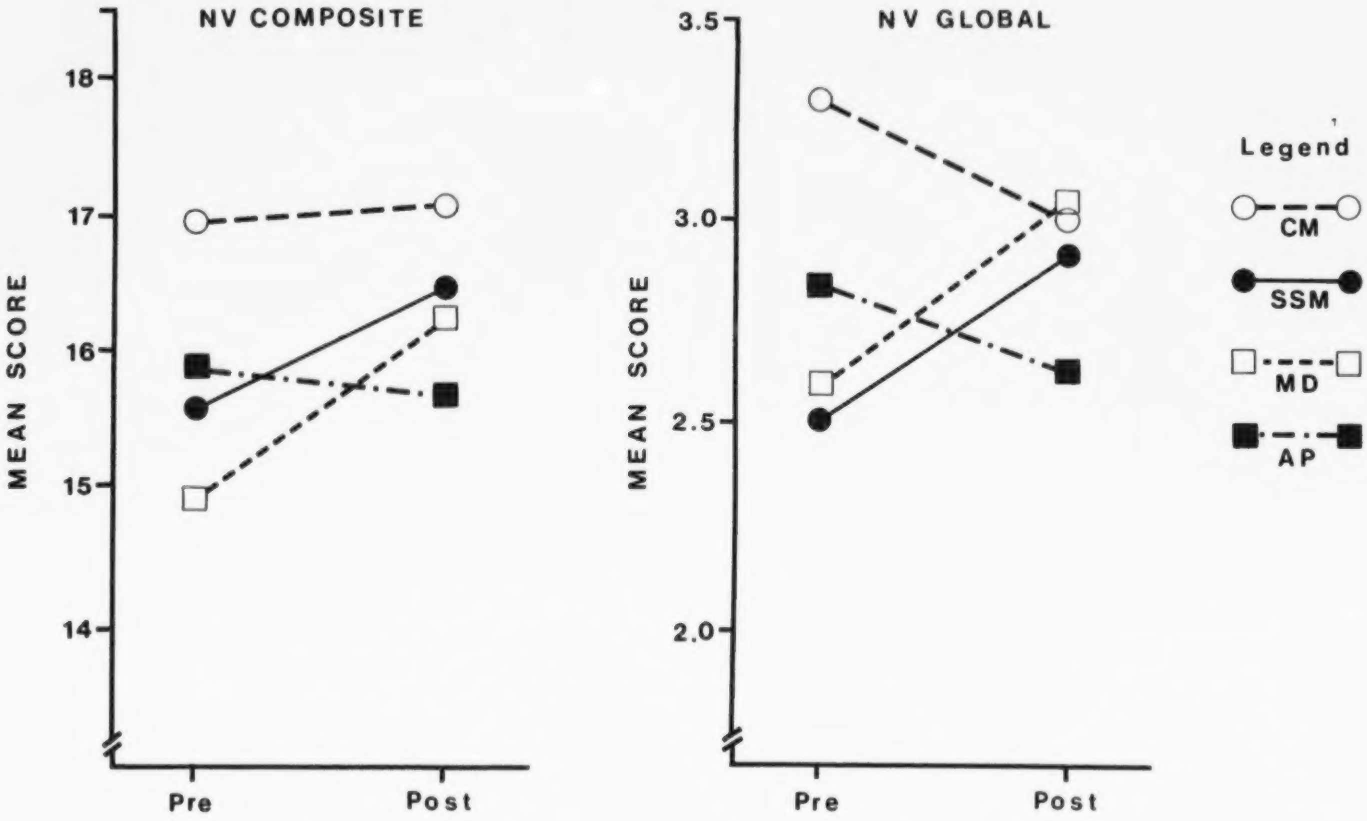

Figure 2. Pre- and Post-treatment means of behavioral speech anxiety measures as a function of treatment type. (Negative decreases indicate an increase in anxiety).

note that the SSM main effect is calculated by contrasting the means for the SSM and CM versus those for the MD and AP treatments.

A separate Post-treatment/Follow-up assessment data set had been subjected to Repeated Measures MANOVA, but had failed to produce differential treatment effects. However, overall improvement had been demonstrated at $\underline{p}<.0001$ using Rao's $\underline{F}$-statistic ($\underline{F}(4,47)= 7.52$). Using Wilks' lambda criterion, the values averaged accross groups fell well within limits for $\underline{p}<.01$ probability. The treatment groups as a whole can be said to have continued to improve between post-treatment and follow-up assessment though at a slower rate.

Supplementary information of a more subjective and qualitative nature was obtained through the use of a "Confidential Evaluation" questionnaire which was filled in anonymously by all participants after the Post-treatment assessment. The questions related to different aspects of the treatment program. A copy of the questionnaire along with a summary and answers to some of the questions can be found in Appendix E.

Table 9

Pre-treatment and Follow-up Means of Verbal Speech Anxiety Measures as a Function of Treatment Type

		Treatments			
Measures		CM	SSM	MD	AP
PRCS	Pre	21.65	20.48	22.54	19.31
	F-up	10.39	8.12	16.26	11.25
	Diff	11.26	12.36	6.29	8.06
SR	Pre	44.86	49.00	47.87	40.59
	F-up	32.04	31.76	36.72	31.05
	Diff	12.82	17.24	11.15	9.54

Secondary Analyses

All three data sets (Verbal Pre/Post, Non-Verbal Pre/Post and Pre/Follow-up) were subjected to a series of

Table 10

Summary of Repeated Measures Multivariate Analysis of Variance for Treatment Effects: Pre-treatment/Follow-up Verbal Speech Anxiety Measures

Source of variation[a]	Rao's F	df	p<
Overall Pre/Post difference	73.58	2,44	.0001**
Pre/Post x SSM (main effect)	3.60	2,44	.04*
Pre/Post x MD (main effect)	.34	2,44	.71
Pre/Post x SSM x MD (synergistic effect)	.88	2,44	.42

Note. [a]n= 10 for SSM, 17 for MD, 13 for CM, 13 for AP.

*p<.05

**p<.01

Repeated Measures MANOVA's for examination of treatment interaction with social anxiety. Pre-assessment levels of social anxiety were identified through the use of scores on the SAD scale. Subjects were divided into two groups, Low and High Social Anxiety, using a cut-off point previously

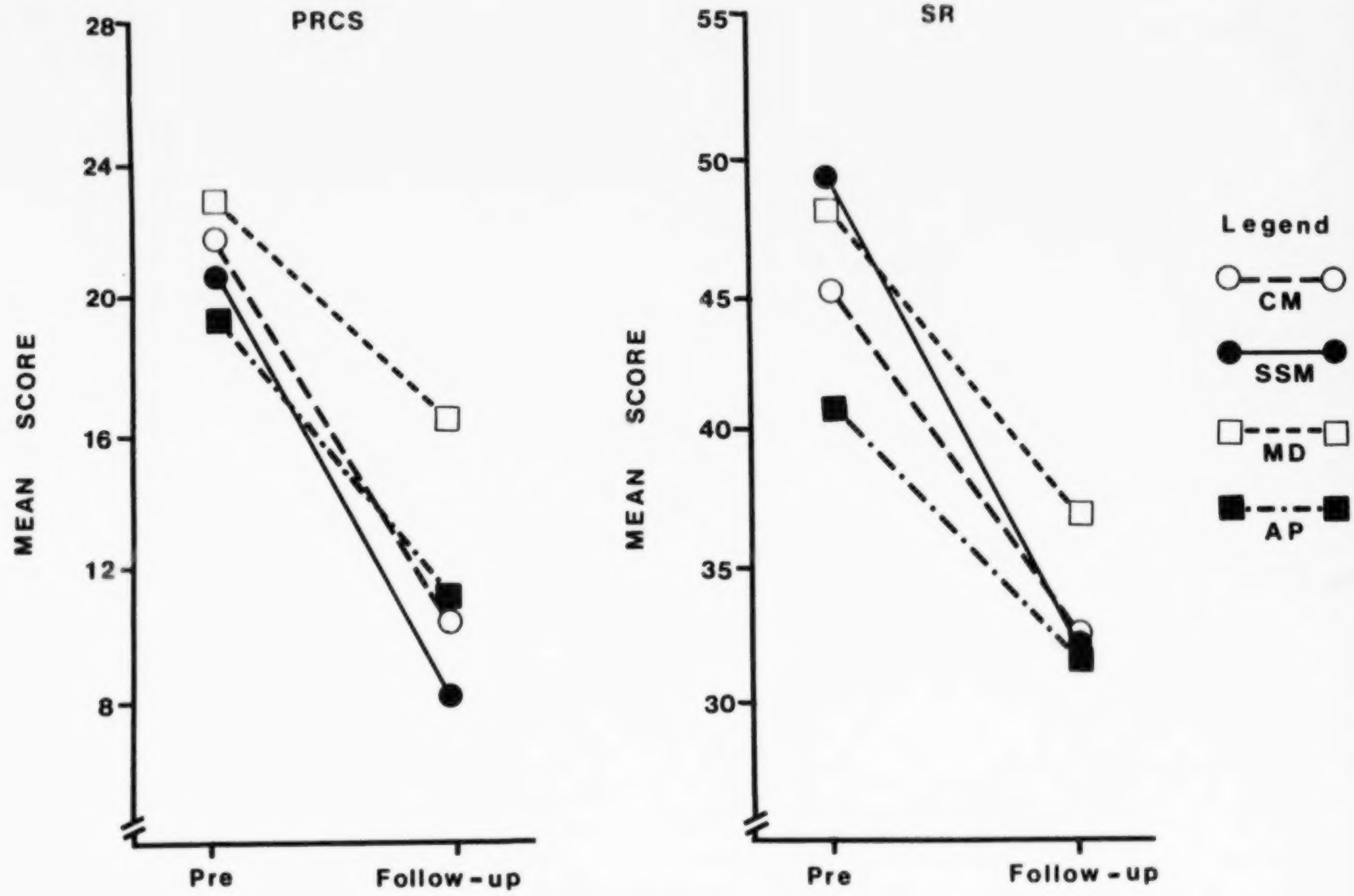

Figure 3. Pre-treatment and Follow-up means of verbal speech anxiety measures as a function of treatment type.

established in similar research (mid-point on the scale). The N for both low and high social anxiety groups turned out to be 27. The breakdown was 6:8, 7:3, 8:9 and 6:10 (low:high) for CM, SSM, MD and AP groups respectively.

The research questions were aimed at examining whether treatments incorporating SSM would reduce the speech anxiety of high socially-anxious Ss more effectively and also whether treatments incorporating MD would reduce the speech anxiety of low socially-anxious Ss more effectively. The synergy postulate is less meaningful in this context, but this interaction effect was also tested.

Results of the Pre/Post data analyses using Verbal self-report and Non-Verbal measures produced no significant contrasts associated with any of the research questions. Means and MANOVA results are presented in Tables 11 and 12. Pre/Follow-up data analyses did however, reveal a significant Social Anxiety differentiation, but no clear interaction with treatments. These results are located in Tables 13 and 14. As can be seen in Table 14, The Social Anxiety dichotomy was significant according to Rao's $\underline{F}$-statistic ($\underline{F}(2,44)= 3.43$, $\underline{p}<.04$). The equivalent lambda test produced a value of .865 which fell within limits for .05 probability (critical value= .868). Pre/Follow-up differences are 9.44 for Low socially-anxious Ss and 15.93 for High socially-anxious Ss. This would seem to indicate that high socially-anxious Ss benefited most from treatment but that no particular type of treatment was differentially effective.

In summary, the design of this study allows for a strong test of main effects related to two fundamentally different treatment methods which have been augmented by an application procedure. In addition, these same treatment methods have been integrated in order to examine synergistic effects over and above those attributable to the sum of the two components. No sex differences were evident and no significant amount of variance could be traced to the counsellor/therapists. The results of primary analyses using Pre/Follow-up data offered tentative support for the greater effectiveness of Applied Self-statement Modification treatment. Statistical tests of the SSM x MD interaction did not support the synergy postulate. The verbal Pre/Post data revealed no significant differences, but the direction of differences coincided with results from both Pre/Post non-verbal and Pre/Follow-up data sets. Though treatment effects appeared to generalize to social situations other than public-

Table 11

Pre and Post-treatment Means of Verbal and Non-Verbal Speech Anxiety Measures as a Function of Social Anxiety and Treatment Type

	Treatment Group	Social Anxiety Level	Measures				
			PRCS	SR	STAI	NVC	NVG
Pre	CM	Lo	19.17	38.00	55.50	17.35	3.33
		Hi	24.25	51.88	66.63	16.60	3.25
	SSM	Lo	20.29	43.00	63.14	15.91	2.71
		Hi	20.67	55.00	67.33	15.30	2.33
	MD	Lo	21.75	46.63	57.13	15.08	2.75
		Hi	23.33	49.11	70.00	14.82	2.44
	AP	Lo	18.33	39.17	56.33	16.25	2.83
		Hi	20.29	42.00	60.43	15.53	2.86
Post	CM	Lo	10.00	30.17	36.67	17.52	3.17
		Hi	16.13	42.75	50.00	16.68	2.88
	SSM	Lo	13.29	35.14	44.14	16.64	2.86
		Hi	8.33	32.67	35.33	16.40	3.00
	MD	Lo	16.88	38.13	44.63	15.93	2.88
		Hi	16.44	39.00	48.67	16.69	3.22
	AP	Lo	10.17	31.33	43.00	16.23	2.83
		Hi	17.00	34.29	52.71	15.20	2.43
Pre/Post Diff	CM	Lo	9.17	7.83	18.83	-0.17	0.17
		Hi	8.13	9.13	16.63	-0.08	0.38
	SSM	Lo	7.00	7.86	19.00	-0.73	-0.14
		Hi	12.33	22.33	32.00	-1.10	-0.67
	MD	Lo	4.88	8.50	12.50	-0.85	-0.13
		Hi	6.89	10.11	21.33	-1.87	-0.78
	AP	Lo	8.17	7.83	13.33	0.02	0.00
		Hi	3.29	7.72	7.71	0.33	0.43
Diff collapsed accross treatments:		Lo	7.30	8.01	15.92	-0.43	-0.03
		Hi	7.66	12.32	19.42	-0.68	-0.16

Table 12

Summary of Repeated Measures Multivariate Analysis of Variance for Interaction of Treatment Type With Social Anxiety (SAD): Pre/Post Speech Anxiety Measures

	Verbal Measures			Non-Verbal Measures		
Source of variation	Rao's F	df	p<	Rao's F	df	p<
Pre/PostxSAD	1.54	2,44	.22	.15	2,44	.86
Pre/PostxSADxSSM	.79	2,44	.51	.09	2,44	.92
Pre/PostxSADxMD	.73	2,44	.54	.07	2,44	.93
Pre/PostxSADxSSMxMD	2.29	2,44	.09	2.36	2,44	.11

speaking, there were no significant interactions with treatments. Based on the Pre/Follow-up data set of speech anxiety measures, Ss experiencing high social anxiety appeared to benefit more from treatments generally than those experiencing low social anxiety.

Table 13

Pre-treatment and Follow-up Means of Verbal Speech Anxiety Measures as a Function of Social Anxiety and Treatment Type

			Measures	
	Treatment	Social Anxiety	PRCS	SR
Pre	CM	Lo	19.17	38.00
		Hi	24.14	51.71
	SSM	Lo	20.29	43.00
		Hi	20.67	55.00
	MD	Lo	21.75	46.63
		Hi	23.33	49.11
	AP	Lo	18.33	39.17
		Hi	20.29	42.00
Follow-up	CM	Lo	8.50	28.50
		Hi	12.29	35.57
	SSM	Lo	9.57	32.86
		Hi	6.67	30.67
	MD	Lo	16.63	39.00
		Hi	15.89	34.44
	AP	Lo	7.50	28.67
		Hi	15.00	33.43
Pre/F-up Difference	CM	Lo	10.67	9.50
		Hi	11.83	16.14
	SSM	Lo	10.71	10.14
		Hi	14.00	24.33
	MD	Lo	5.13	7.63
		Hi	7.45	14.67
	AP	Lo	10.83	10.50
		Hi	5.29	8.57
Difference collapsed accross treatments		Lo	9.33	9.44
		Hi	9.64	15.93

Table 14

Summary Table of Repeated Measures MANOVA for Interaction of Treatment Type With Social Anxiety (SAD): Pre/Follow-up Verbal Speech Anxiety Measures

Source of variation	Rao's F	df	p<
Pre/F-up x SAD (social Anxiety dichotomy)	3.43	2,44	.04*
Pre/F-up x SAD x SSM	1.29	2,44	.29
Pre/F-up x SAD X MD	.32	2,44	.73
Pre/F-up x SAD x SSM x MD	1.60	2,44	.21

Note. *p<.05

CHAPTER V

DISCUSSION

This final chapter will address discussion of results. Initially, the primary objectives of the study, (i.e. examination of synergistic treatment effect and effectiveness of refined component treatments) will be reviewed. Primary and secondary research questions will then be restated. Next, overall treatment effect on both speech and social anxiety will be briefly explored, followed by discussion of generalization and maintenance effects. Subsequently, the results of analyses bearing on the primary objectives of this study will be reviewed. Special mention will be made of the issue of placebo control and of the general limitations of the present study before going on to more detailed discussion of results associated with primary (treatment effects) and secondary (social anxiety interaction) research questions. The intercorrelation between assessment measures will be examined and will be followed by suggestions for future research and a brief summary.

The primary objectives of this investigation were to further refine two techniques of treatment for speech anxiety and to examine their respective contributions to treatment effectiveness as well as their synergistic effect. Further refinement of treatment strategies was based on the addition of a consolidation or practice procedure. The two main counselling procedures were Applied Self-statement Modification (SSM) and Applied Modified Desensitization (MD). SSM focuses more on cognitions as a trigger for the development of anxiety and does not deal directly with reduction of arousal. MD goes right to the bodily experiencing first, but probably deals with cognitions unsystematically. Both treatments have been augmented by practice procedures designed to allow for consolidation of learning, hence the term "Applied". Both work on the assumption that by changing present cognitive or physiological events, one changes one's esoteric "feeling state" for the better without delving more deeply into past subconscious experiences.

Synergy of the treatments was examined by incorporating both treatment components into a counselling program and examining contrasts that included each treatment component (SSM and MD), a treatment called Applied Cognitive Modification (CM) combining both procedures, and a placebo control treatment (AP). The assumption is that one can show a "more than additive" effect of the combined treatment. This synergistic effect was considered as a test that the difference between presence and absence of MD is the same when SSM is present as when SSM is not present.

Secondary objectives dealt with exploring the effects on speech anxiety of a specific client variable, social anxiety, in its interaction with treatments. In other words, would high and low socially-anxious individuals derive differential benefit from either of the two main treatments?

Primary Research Questions

Primary questions were posed to identify whether or not the effects of the combined treatment (Applied Cognitive Modification) plus the control treatment would be greater than the added effects of SSM and MD on speech anxiety reduction in their respective groups. Additionally, the goal was to identify whether treatments involving one of the components, Applied Self-statement Modification or Applied Modified Desensitization would be more effective in reducing speech anxiety than treatments not containing the respective procedures.

Secondary Research Questions

Questions were also posed to identify whether or not the same synergistic effect of the combined treatment would apply equally to both high and low socially-anxious Ss. Next, would SSM and MD reduce the speech anxiety of high and low socially- anxious Ss differentally? In other words, would SSM reduce the speech anxiety of high socially-anxious Ss more than low socially-anxious Ss, and would MD reduce the speech anxiety of low socially-anxious Ss more than high socially-anxious Ss?

Overall Treatment Results

Results indicate significant overall treatment effect as evidenced by speech and social anxiety measures ($p<.0001$). Such findings related to speech anxiety are consistent with many other studies employing similar treatment techniques (Paul, 1965; Paul and Shannon, 1966; Mylar and Clement, 1972; Meichenbaum, Gilmore and Fedoravicius, 1971; Goldfried, Decenteceo and Weinberg, 1974; Goldfried and Trier, 1974). Non-verbal stress-condition measures do not lead to similar conclusions of overall treatment effectiveness, but differential effectiveness was apparent. These differential results will be treated in a later section.

Generalization and Maintenance of Treatment Effectiveness

Reductions in social anxiety were found when values for all treatment groups were averaged, but no significant differential relationship could be seen. Therefore, generalization effects ($p<.0001$) as deduced from the Pre/Post-treatment and Pre/Follow-up assessment of social anxiety can be considered to be operable although the results do not favor any particular treatment component. However, neither social avoidance and distress nor fear of negative evaluation, the concepts measured by these scales, were found to be systematically affected by the two treatments. It is unclear why the SSM component, alone and in conjunction with MD would not have contributed more importantly to the reduction of social anxiety, as the emphasis on coping behaviors applicable in a wide variety of situations might have addressed a broader range of concerns.

The existence of maintenance effects as measured by the Pre/Follow-up assessments of both social and speech anxiety are supported based on averaged treatment gains. Although speech anxiety results revealed differential treatment effects, differential maintenance effects were not revealed by the analyses of social anxiety reductions. Also, the relatively brief latency period of five weeks may not qualify for true evaluation of maintenance effects, but may represent instead a treatment latency effect. By Follow-up, speech anxiety reductions showed an altered picture compared to post-treatment assessment. The significance and maintenance of an emerging SSM effect (based on marginal significance at Post-treatment assessment) provides some ground for discussion of a possible latency or consolidation phenomenon. This speculation will be further addressed later.

Interpretation of Treatment Effects

A brief outline of the main results will be followed by special mention of some of the limitations of this study. Then, a more detailed discussion and interpretation of results associated with the primary and secondary research questions will be presented.

The results associated with the primary objectives of this study indicated that the synergy effect was reversed. In other words, the combined treatment was shown to be significantly less effective than the sum of its parts by both behavioral stress-condition measures and verbal self-report measures. This interpretation derives from examination of both Pre/Post-treatment and Pre/Follow-up treatment gains, as Post and Follow-up assessment periods are equally considered in the exploration of treatment effect. This has been done in order to take into account a latency effect which may be inherent to therapeutic improvement or alternately, a halo effect which may decrease by Follow-up assessment.

In addition, there is some support, though qualified, for the existence of an SSM effect. That is, improvement attributable to treatments incorporating Applied Self-statement Modification as sole treatment and combined with Applied Modified Desensitization was significantly greater than improvement provided by Applied Modified Desensitization coupled with control treatment effects. In other words, treatment programs incorporating the SSM component provided greater improvement than treatments not containing this component.

A special note regarding placebo effects may be appropriate. Because the placebo treatment rested on a strong, plausible rationale, this control procedure should contribute to treatment gain and should serve to equalize contrasts associated with main effects for component treatments. Therefore, main effects are less easily obtained than with a no-contact or no-treatment control.

As with all treatment analog studies, the present findings and their generality must of course be considered in the light of many possible limitations. Such limitations are related to the nature and homogeneity of treated Ss as well as the choice and homogeneity of therapeutic procedures.

On grounds of methodology and design, it is felt that too little time was alloted the combined treatment group to fully grasp and digest such a complex procedure. A greater diversity of commitment was also required of both counsellors and Ss. Perhaps because of the latent learning period inherent to SSM, too little time per session as well as too short a period of time (4 weeks) was allowed for full benefits to accrue. If treatments had been spread over a longer period of time (eg. eight weeks instead of four) enhanced individual component treatments could have been used in the comparison. Measures could have been taken mid-way through treatment to ascertain if component treatment effect had levelled off while the combined treatment continued to provide anxiety reduction. Alternatively, doubling treatment time for the combined treatment may have provided for a better integration of the twin strategies and different results for the synergy hypothesis.

The MD treatment was relatively less familiar to the counsellors who employed them. Extensive training may not have been sufficient to completely overcome awkwardness in the facilitating of this very structured technique. Also, with hindsight, it is felt that the visualization component and relaxation training components of the MD procedure may not have been sufficiently monitored. Homework assignments relative to relaxation practice may not have been fully adhered to. Having taken these shortcomings into consideration, it is felt nonetheless that the results of this study reflect something more fundamental than the consequences of this flaw.

A further limitation to the present study was the use of a behavioral scale that was found to exhibit questionable psychometric characteristics. Specifically, inter-judge reliabilities were rather low, especially based on Post-treatment rather than Pre-treatment assessments. The Rating Non-Verbal Behavior Scale appeared promising but had not been used before for the measurement of anxiety and therefore no norms were available. Although significant differential results were still forthcoming based on this instrument, it may have been better to adopt Paul's (1966) TBCL (Timed Behavioral Check List) or some similar instrument for which inter- judge reliabilities are greater. This particular scale (NV) was developed because the original TBCL appeared to be unreasonably difficult to rate in such a limited time frame (one minute for 15 observations). If this instrument is to be used in the future, certain ameliorations could be brought to it and they will be discussed in the section on suggestions for future research.

A significant limitation inherent to all outcome studies is their inability to provide information on the process of the experience of anxiety as well as the process of therapeutic change. Process research would focus on how the anxiety progresses in order to shed light on differential patterns of response. Various client sub-populations could be investigated within the same design. Also, single-subject strategies would serve to broaden our understanding of the subject under consideration. Using multiple assessment points and multiple response modes would have allowed for identification of differential patterns of response. It would then be possible to make differential hypotheses regarding treatment effectiveness. It is hoped that future efforts will allow us to bridge that gap between process and outcome research. Other limitations or rather constructive alternatives to a number of limitations will be discussed in the section pertaining to suggestions for future research.

Treatment Main Effects: Applied Self-statement Modification

Results regarding the greater benefit attributable to Applied Self-statement Modification are both unexpected and encouraging. They offer a modest contribution to a growing body of evidence in support of cognitive strategies which are proving to be a very promising development in counselling and behavior therapy. Having said that, a number of qualifiers and mitigating elements must be examined in order to put the results into perspective.

At Follow-up assessment, the verbal speech anxiety measures reflected significant improvement of treatment groups employing SSM. At Post-treatment assessment, these values had only approached significance (.07). The difference at Follow-up is due in part to the MD treatment group having fallen behind the other groups, hence increasing the contrast between treatments employing SSM, i.e. SSM and CM and those not employing it, i.e. MD and AP. This difference is more clearly observed in the PRCS values. Also, the combined treatment group showed greater treatment gain by Follow-up relative to separate component treatment groups. This is clearly seen in the SR values. These two facts explain the stronger SSM effect at Follow-up.

Did the combined treatment because of its SSM component benefit from the latency period, while MD treatment effects were limited to the treatment period? In effect, in the case of MD, the latent period between Post-treatment and Follow-up can be viewed as reflecting loss-of-acquisition suggestive of a kind of natural extinction process linked to the passage of time. This may be inherent to the procedure or may reflect its lesser "self-control" characteristics that might otherwise allow it to continue contributing to a conscious thought change process. In the case of SSM, the latent-learning explanation seems more plausible, as one might expect a cognitively-oriented treatment to require reality testing and reflection that can occur during a latent learning or consolidation phase following treatment. In fact, examination of the data reveals that treatment gain for the combined group at Follow-up was greater, relative to all other groups. This may be explained by alluding to the latent learning potential of SSM, which was one of the components of the combined treatment. Beyond the benefit of modeling associated with the practice component, SSM may be tapping and changing some deep structural rules as has been suggested by Merluzzi, Glass and Genest (1981). Dowd (1981) offers an interesting discussion of how cognitive behavior therapy seems to be conceptually promising for maintenance and generalization of change.

Another explanation for the SSM superiority relates to the practice component which may have increased its potential as a therapeutic tool. Though this effect would have to be attributed to all treatments in principle, it is conceivable that the particular combination of SSM and opportunities for application or practice may have been optimal for the reduction of anxiety. The simple but powerful principle of exposure to a feared situation may have played a crucial role. For Mahoney (1974), exposure is experience congruent with a desired belief which can result in significant and rapid cognitive restructuring. In SSM, the exposure component may serve to reinforce therapeutic salience in a very immediate manner.

An additional comment relates to the remarkable consistency of the results of analyses. Although the Pre/Post verbal results only approached significance [$\underline{p}<.07$ for SSM effect and $\underline{p}<.06$ for (SSM x MD) effect], an examination of the relevant means in the case of each verbal measure revealed the same relationships between means-contrasts as in the significant Pre/Post (non-verbal) and Pre/Follow-up (verbal) results. That is, the SSM component produces greater improvement and therapeutic synergy for the combined treatment is reversed.

Synergy Effect

The synergy effect represents a postulated superiority of the effects of the combined treatment, a kind of enhanced effect which is deemed to be greater than the sum of its parts or components. That is, a multiplicative or "more than additive" effect is postulated rather than an additive effect. Analyses along these lines reflected mean differences in an opposite direction to that expected.

Based mainly on the Pre/Post non-verbal analyses, this finding clearly does not lend support to the synergy postulate. Moreover, the unexpected direction of the significant difference indicates that not only is the multiplicative effect not greater than the additive effect, but within the design of this study, combining the treatments seems to lessen their impact. One explanation for this result might be that insufficient time was devoted to each individual component in the combined format. The design of treatment sessions had all groups receiving the same number of hours of treatment (8). Also, a greater diversity of commitment may have been required by individuals participating in the combined treatment. Their commitment had to be greater because the counselling activities and the homework assignments were doubled for them, but restricted to the same time frame as the treatment groups receiving individual components. Also, it may be that because only half the time (4 hrs.) was devoted to Desensitization, the relaxation and imagery work were not as thoroughly handled. A suggestion for future research might be to waive any postulated requirement for the treatments to be of equal duration and to give double time to the combined group.

The control group improvement scores were almost always smaller than those of the treatment groups. However, on all measures, the control group produced anxiety reduction both at Post-treatment assessment and Follow-up. In fact, according to PRCS means at Post-treatment (Pre/Post verbal analyses), this group did as well as the MD group. At Follow-up, it did better than the MD group. It must however be noted that these conclusions are reached solely through visual examination of the data, as the main statistical tests were designed to examine SSM, MD and synergy effects, but not to compare control and treatment groups in a one-way, four-level design.

This non-zero control effect seems to have contributed to the eventual fading of significance (negative direction) associated with the synergy postulate. Upon examination of results using the same verbal measures at Pre/Post and at Pre/Follow-up, probability levels are seen to change from .06 to .10. It must be remembered that control effects are always part of the equation. All Pre/Follow-up verbal means-contrasts show that the combined and control groups did better in relationship to SSM and MD groups than they had done in Pre/Post data. Upon examining this data, one sees that by Follow-up, the discrepancy between combined + control versus SSM + MD has faded because the combined treatment group had improved more than had the MD group. At Follow-up, MD fell behind in relationship to SSM and combined. In the case of the PRCS, it even fell behind the control group. Therefore means-contrasts involved in the synergy postulate are less pronounced and non- significant.

To summarize considerations related to the postulated synergy effect, it seems fair to say that such an effect remained unsupported. Furthermore, the effect seems to be reversed, but only to the extent that in this study a rather limited amount of time is devoted to each of its therapeutic components.

A somewhat related consideration involves the Pre/Post non-verbal analyses which revealed negative synergy while failing to pick up the SSM effect. In previous studies, the failure of non-verbal measures to distinguish between treatment groups is not uncommon (Lamb, 1978; Cradock et al., 1978; Fedoravicius, 1972; Mylar and Clement, 1972; Woy and Efran, 1972; etc.). These investigators found the Behavioral Checklist to reflect significant differences between treatment and control groups, but not between treatments under investigation. On the other hand, using the same instrument, Meichenbaum et al. (1971) produced evidence that shows SSM to be more effective than CM, but as effective as MD.

In order to understand the results of this investigation, it is helpful to observe the relevant non-verbal data. They show that the combined treatment group fared least well, while SSM and MD produced greater and equal anxiety reduction. The surprise is how well the MD treatment seems to have done, even though its effect was not shown to be significant. Because this treatment group fared so well, contrasts for the synergy effect were significant in a negative direction. Perhaps the relaxation training, more thorough in MD than CM was largely responsible for the reduction in overt manifestations of anxiety in the stress-condition assessment. In any event, non-verbal means-contrasts appeared to rule out the SSM superiority revealed at Follow-up by the verbal measures.

The question therefore arises: are non-verbal measures more appropriate for emotionality or arousal-related interventions? In other words, are we assessing more specifically the outcome objectives of MD than SSM? There is no simple answer to this question, but future research will do well to include at least these two basic response-systems in assessment packages.

Social Anxiety Interaction

These research questions dealt with a subject variable, social anxiety, in interaction with the treatment variable. Statistical hypotheses were set up to measure a social anxiety effect based on a high and low SAD score dichotomy as well as interaction with treatments. Social anxiety was treated as a third factor added to analyses of the same SSM, MD and synergy effects.

Initially, it was postulated that Applied Cognitive Modification in its synergistic formulation (not the main effect of the combined treatment) would be equally effective in reducing speech anxiety of both low and high socially-anxious Ss. Therefore, this double interaction would not be significant. Secondly, SSM and MD would reduce the speech anxiety of high and low socially-anxious Ss differentially.

Results reflected a significant social anxiety dichotomy across all treatments but no interaction with treatments. As expected, in association with the postulated synergy effect, no significant differences were found between the high and low socially-anxious Ss. This is not to say that the combined treatment, CM, may not have produced a significant interaction with social anxiety, for this consideration was not intended. Instead this finding reflects the fact that there were no significant differences between high and low socially-anxious Ss when the multiplicative effect of CM is taken into account (first of the secondary research questions).

The remaining secondary research questions may be more meaningful than the first in the light of the following considerations. That is, based on previous research findings (Meichenbaum et al., 1971; Goldfried, 1977; Weissberg, 1977), the high socially-anxious Ss should benefit more from a cognitive approach. Meichenbaum et al. (1971) had also found that the low socially-anxious (or specifically "speech"-anxious) Ss had benefited more from the physiologically-oriented MD. Theoretically, a cognitive approach (SSM) would offer more opportunity for generalization to other social situations, as Ss participating in this group are indeed encouraged to see the link with a wide variety of situations. A desensitization approach, though not entirely devoid of cognitive focus because of its imagery work would be seen to be more tailored to the speech situation and relatively more physiologically-oriented.

But, unexpectedly, neither SSM nor MD were shown to differentially affect high and low socially-anxious Ss. This finding is more problematic in the case of the SSM interaction as results associated with the primary research questions have generally pointed to its greater potency. Why then, have the high socially-anxious Ss not responded more favourably to SSM treatment than low socially-anxious Ss? The inconsistency of this conclusion in the light of suggestive findings from previous research is indicative of a need for further research. It may be noted in passing that the SSM group was more heavily weighted in low social anxiety than the other groups. Since cognitive approaches tend to benefit individuals with high social anxiety more greatly, their comparative effectiveness may have been undermined in this case.

Despite the lack of interaction between treatments and social anxiety, the data do show that when treatment gains are averaged, individuals with high social anxiety benefited most. This conclusion is based on significant differences associated with Pre/Follow-up verbal assessments. (Discriminant function analysis revealed a high correlation with the SR: Mean Low SAD score= 9.44; Mean High SAD score= 15.93). One might also wonder why high socially-anxious Ss were seen to benefit from MD as well as SSM. Conceivably, because MD has some self-control attributions that ally it to a cognitive mediational process, i.e. the relaxation training and the imagery procedure, a covert self-instruction process (Goldfried, 1971) is at work. In other words, Ss might perceive the procedure as a technique they could use actively to cope with their anxiety in a number of situations even though no formal suggestions or instructions are made in this direction. Also, the imagery procedure itself is a cognitive event and may somehow retain some of the generalization potential of SSM. Relabelling of emotional states may spontaneously occur. Finally, the added practice element of the imagery work, though in covert form, may have contributed to its success with high socially-anxious Ss.

Alternate explanations bring into play other treatment compatibilities. Perhaps speech-skill-training is preferable for individuals with low social anxiety. Fremouw and Zitter (1978) suggest that skill-training can be equally effective for the speech-anxious who are high and low in social anxiety. They propose the integration of skills training and cognitive restructuring to increase generalization of treatment effects. However, if skills training is the only treatment employed, then it should be employed in conjunction with relaxation training at least. Sherman, Mulac and McCann (1974) found that the combination of these two procedures greatly increases their effectiveness over and above the benefit derived strictly from attendance in a speech course, or from one or the other procedure on its own.

Another possibility relates to the effectiveness of relaxation therapy with focal anxieties. Goldfried (1977) found some evidence to suggest that cognitive strategies (rational restructuring) are effective for social anxiety while both relaxation therapy and rational restructuring seem effective for focal target problems such as speech anxiety. If in fact, speech anxiety can be seen as a focal anxiety, when unrelated to high levels of social anxiety, then this would mean that relaxation training may be a treatment worth considering. But, in this case, the desensitization procedure incorporating relaxation training did not prove more beneficial for individuals experiencing low social anxiety. A more interesting avenue for further exploration might be the high/low physiological reactivity variable (Borkovec, 1973). Do individuals who experience emotions in a very physical way, i.e. with high physiological arousal, respond more favourably to a technique like desensitization with its relaxation component? Few studies have addressed this issue. Gross and Fremouw (1982) found the subtypes defined by low physiological reactivity performed poorly in progressive relaxation treatment relative to cognitive restructuring.

An interesting though speculative consideration is the issue of the appropriateness of measures of acute speech anxiety versus measures of chronic speech anxiety. The rationale employed is drawn from Page (1978) who argues that the appropriate instrument to measure post-treatment differences or post-treatment effect is a measure of acute, or state anxiety rather than chronic or trait anxiety. This position may be accounted for based on the fact that sufficient time has not yet elapsed for concomitant changes in self-report of chronic or habitual speech anxiety. Follow-up effect, or differences that become evident after a period of latency or consolidation may appropriately be assessed using measures of chronic speech anxiety.

Measures of chronic speech anxiety measure a long-standing state. In the case of this study, both a verbal self-report (STAI) and a behavioral (non-verbal) measure were used to evaluate acute manifestations of speech anxiety in the week immediately following the end of treatment.

An examination of intercorrelations between these two measures at Post-treatment assessment does not reveal a strong relationship. This observation might tend to detract from the original premise of their relatedness. Also, if one alludes to the response-system desynchrony discussion, one may concede the possibility that visible evidence in the form of behavioral change requires a latency period to develop, while subjective verbal measures may be more sensitive to self-perceived improvement. Also, the significant SSM effect revealed through Follow-up analysis of verbal self-report measures may have been evident in the non-verbal measures had they been used within the Follow-up assessment. Admittedly such considerations are total supposition and must remain a proposition for future research. However, further examination of treatment effectiveness based on the non-verbal and the one verbal measure (STAI) of acute speech anxiety reveal some interesting considerations.

The post-treatment non-verbal assessment instrument was composed of a composite measure and a global measure. The rather poor construction of the 3-point composite measure suggests that the global measure based on a 5-point scale might more readily reveal significant differences. Also, both Kolotkin et al. (1984) and Page (1978) are found to endorse a global rating rather than a composite scale in similar circumstances. In the present instance, the composite (NVC) and global (NVG) measures were found to be highly correlated, but the global measure represents the major dimension of the difference for the significant (negative) synergistic effect (Rao's $\underline{F}$= 3.85, $\underline{p}$<.02) found with Pre/Post data. The correlation of the variate with the discriminant function is .99.

In the case of the STAI, significant differences are evidenced from Pre/Post univariate analyses (positive SSM effect, negative SSM x MD effect and negative SAD interaction). Univariate results show an F-value of 7.479, $\underline{p}$<.009 for the SSM effect; $\underline{F}$= 6.019, $\underline{p}$<.018 for the SSM x MD effect; and $\underline{F}$= 6.598, $\underline{p}$<.014 for the SAD x SSM x MD interaction hypothesis. The marginally-significant differences found with the Pre/Post multivariate analysis of verbal measures (SSM effect, synergy effect) are mainly attributable to the STAI as this instrument represents the major dimension of the differences. Discriminant function analyses reveal correlations of .98, .85 and -.96 for the respective univariate hypotheses (SSM effect, SSM x MD effect and SAD x SSM x MD interaction). For the other variables, these correlations were quite low, ranging from .11 to -.64.

Based upon results from analyses using NVG and STAI and particularly as concerns the negative synergy and SAD interaction effects, a tentative conclusion is offered. The negative synergy effect as tested at Post-treatment assessment seems to be even greater for individuals with high social anxiety than those with low social anxiety. In other words, the two treatments do not combine to best effect, but this may be even more clearly the case for individuals with high social anxiety added to their speech anxiety.

Intercorrelation of Measures

Though verbal self-report measures have generally been highly intercorrelated in most of the previously-cited research, few studies have been able to show strong relationships between the physiological, behavioral and verbal measures. Woy and Efran (1972) and Paul (1966) are among those with correlated behavioral and physiological (both studies) as well as correlated behavioral and verbal measures (Paul, 1966).

Still, as far back as 1959 (Clevenger) and quite consistently since then, studies found the degree of association between the three classes of measures to be unclear. Clevenger called the three classes: 1) audience-perceived stage fright (behavioral measures), 2) cognitively-experienced stage fright (verbal self-report measures) and 3) physiological disruptions. Laemmle (1968) found low non-significant correlations between the three classes of variables. Paul (1966) found positive correlations between a behavioral and physiological and a behavioral and self-report measures, but not between a physiological and self-report measures.

As explained previously, the present investigator has chosen to focus on the first two classes because of their greater relevance and face-validity, while aiming for parsimony of the two same-dimensioned measures by restricting their number to three for verbal speech anxiety, and two for non-verbal speech anxiety.

Intercorrelation matrices of the measures used in this study show that all three verbal speech anxiety measures (one acute, two chronic) correlate highly among themselves. The generalization measures (social anxiety) correlate significantly but less highly with the speech-anxiety self-report measures. The relationship between the two social anxiety measures is highly significant. The non-verbal or behavioral speech anxiety measures correlate extremely well but do not correlate with either speech or social anxiety self-report measures.

In summary, the postulated lack of synchrony between the two classes of measures does seem to hold. Perhaps they are measuring different angles of the problem (physical arousal versus cognitive mediation) or perhaps the different response-systems of the individual operate at different speeds in interaction with compatible treatment methods. It is possible that with further speech practice, a treatment such as SSM might provide objective confirmation of subjectively perceived self-efficacy through behavioral measures at Follow-up. To say the least, these considerations appear to incite further reflection which will undoubtedly be more fully investigated in future research.

Suggestions for Future Research

The final considerations of this report will deal more systematically with suggestions for future research. Methodological and design modifications could further improve and contribute to our understanding of the issue. Consistent with Kiesler's (1971) psychotherapy research model, client and therapist variables could be more extensively investigated.

From the point of view of methodology, future studies could incorporate better controls for an application phase. The procedural technique of successive approximations (Kirsh et al., 1975) may be helpful in this context. Also, when desensitization is employed, better controls could be instituted for relaxation training including relevant homework assignments. More time could be devoted to each component of a combined SSM and MD treatment. Preferably, a more reliable behavioral or non-verbal assessment instrument should be used, or more thorough training should be given to the raters. An interesting development has appeared in voice analysis for the measurement of anxiety (Smith, G.A. 1977).

The issue of design and formal control conditions leads to further considerations. In future, two placebo controls could be used instead of one. High expectancy (non-specific therapeutic characteristics) conditions could be combined with Discussion or with Practice. In the present study, the Attention-Placebo treatment combined all three characteristics. The advantage might be to identify the proportion of variance attributable to discussion of interpersonal communication issues versus that attributable to actual speech practice. Watson and Dodd (1983) had found a 4-month communication-skills procedure to be as effective as combinations of communication skills and RET or communication skills and SD. Also, a no-contact control could be used, but this is viewed as a minimal condition which, when possible, should be supplanted by placebo controls. Also, alternate design formats could allow for better control of the Practice component, i.e. incorporating treatments with and without the Practice component and a more direct comparison between all treatment groups and the control group(s).

Multivariate analysis is viewed as the preferred method for data analysis of correlated measures and it is hoped that future studies will recognize that acceptable statistical methodology is fundamental to meaningful research. If the behavioral scale (NV) is to be used in future research, it would be advisable not to retain the 3-point (good to poor) classification system for observations. A 5 or 7-point rating scale should be used in order to allow for more of the variation in values. Also, collecting normative data on a variety of people would be an important step in clarifying how anxiety is manifested in such a situation. The effects of varying sex, age, etc. of participants could be explored. Also, it would be advisable to do reliability studies and to hold thorough training sessions for the raters. Using the group's norm would yield more internally similar ratings and greater differentiation of S performances might be attained. Also, a behavioral test of social anxiety could be constructed to make use of role-play situations. If the sample size were large enough one could obtain a clearer dichotomy on the social anxiety dimension by using a more limited and extreme range of scores (eg. upper and lower third of scores on the SAD instead of a mid-point cut-off).

Maintenance effects could be more thoroughly examined and lengthy long-term Follow-up assessments such as the 2-year period currently adopted in the Picinnin, McCarrey and Chislett (in press) study would add much to our understanding. Meichenbaum and Cameron (1974) state that the subject's perception and evaluation of environmental consequences is at the heart of the matter. When the treatment focuses on changing these perceptions, the result is greater effectiveness of treatments, more generalization and greater persistence of treatment effects. Procedures such as self-statement modification which tap directly into this self-control process would provide interesting data for the study of long-term maintenance effects.

The question of client and therapist variables merits further examination and some discussion is offered to further supplement previous comments. In addition to the concept of social anxiety, client variables such as locus-of-control (Rotter, 1954), level of anxiety, conceptual level (Harvey, Hunt and Schroder, 1961), physiological reactivity (Borkovec, 1973; Davidson and Schwartz, 1976) could be explored within the context of speech anxiety outcome studies. A few treatment outcome studies have included these client variables within their parameters, i.e. Malkiewich and Merluzzi, 1980; Kanter and

Goldfried, 1979; Morley and Watkins, 1974 (locus-of-control and speech anxiety); Gross and Fremouw, 1982 (low physiological reactivity and speech anxiety). Though Eysenck's introversion/extroversion concept (Eysenck and Rachman, 1965) requires further refinement before meaningful research can adapt it to speech anxiety, some value may come of its inclusion in a research design.

The relationship of counsellor/therapist variables or characteristics to outcome studies has been examined by Truax and Mitchell (1971). In a relevant example, Ryan and Moses (1979) studied the Rogerian constructs of therapist warmth and status in the desensitization of test anxiety. Unfortunately, this study's methodology is flawed, but future studies could further refine this lead. Any number of therapeutic conditions or therapist characteristics could be manipulated to produce meaningful conclusions in the area of treatment for speech anxiety.

Because individual patterns of response might be helpful in increasing our knowledge of how therapeutic approaches actually exert their influence, further more refined statistical analysis of individual variability may extend the usefulness of outcome investigations (Jacobson, Follette and Revenstorf, 1984).

Finally, counsellor attitude toward the particular treatments they employ could be assessed in an indirect manner. Of course, all efforts are made to thoroughly familiarize counsellors with treatments and preference should be given to counsellors experienced in the treatments. But when treatments are randomly assigned to many groups of Ss, counsellors are required to participate in most if not all treatments and a personal bias may quite naturally exist. In order to assess this factor, therapists could be asked to evaluate their attitudes toward different treatments and Ss could be asked to evaluate their perception of treatment efficacy based on perceived counsellor commitment. With a minimum of effort and time, some information regarding the interplay of this variable with treatment efficacy may surface. Also, subject's perceptions of treatment should be studied to see if attributions of self-control technique rather than the procedure itself are the determining factor.

Summary

In summary, though many improvements can still be made to design and methodological conditions, much heuristic value is gained from outcome research for the practicing counsellor. Within the context of daily practice, no issue is more meaningful than the effectiveness of techniques and procedures.

This investigation has provided some support, though qualified, for the cognitive procedure of Self-statement Modification coupled with practice as a preferred treatment for speech anxiety. The synergistic formulation has not received support and can, within the limited context of this investigation be viewed as reversed. Using alternate design formats and a longer treatment period, further research may yet point to the superiority of a combined treatment or even to a true synergistic effect. The client variable of social anxiety has not been shown to interact with treatments in a systematic manner. Variables such as social anxiety and physiological reactivity merit further attention in the study of counselling strategies for speech anxiety.

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APPENDIX A

RATIONALES AND GUIDELINES FOR TREATMENTS

Summary of Rationale for Self-statement Modification

(see Manual)

Just before presenting the rationale to the group, the counsellor should do a guided fantasy exercise which consists of asking participants to close their eyes and focus on the brief speech they gave in the introductory session of this program.

Ask: "What are your reactions and behaviors; what are the consequences? What are the particular aspects of the environment which triggered your reactions? What was the starting point, the worst point; what self-statements are you emitting at these points?

1. Note that many people speak of physical tenseness and lack of focus. (use examples from your group)
2. "Your thinking or self-statements get in the way. Have I heard correctly?"
3. There is a correlation between thinking and feeling.
4. Our goal is to share and explore thoughts and feelings in order to Notice thinking processes
   Become aware of our self-statements
   See how we focus our attention

   Group gives examples of effects of thinking on behavior
5. Anxiety is composed of 2 parts: heightened emotionality and worry or thinking processes.
6. 1st we will try to relax, 2nd we will learn to control our thinking processes and attention.
7. Field questions from group. Stick with a general rationale.
8. The "thinking process" can encompass perceptions,

attitudes, expectations, beliefs and thinking styles.

9. Experience has shown that irrelevant self-statements often fall into the following categories:
   - One's performance, feelings of inadequacy and self-downing
   - Comparing oneself with others
   - Preoccupation with bodily reactions
   - Preoccupation with consequences.

Rationale for Modified Desensitization

(See p.116-117 of S. Desensitization Treatment Manual by G. Paul, 1966)

1. Anxiety is a result of learning and can be unlearned.
2. Emotional reactions are a result of previous experience with people and situations. The feelings of anxiety and tenseness they lead to are often inappropriate.
3. Since imagery is such a powerful learning technique, and since perceptions of situations are so crucial to anxious behavior, we will work with images in visualizing target-problems.
4. This technique utilizes two main procedures: relaxation and counter-conditioning. The relaxation is based on Dr. Jacobson's (1964) work (Progressive Muscular Relaxation).
5. The relaxation approach in this study is based on the following premises:
    i) You cannot be both relaxed and tense at the same time.
    ii) Pendulum concept.
    iii) Slow deep breathing works to calm the entire arousal system (slowing of heart rate, etc).
    iv) In focusing attention on bodily sensations, one cannot worry about the future.
    v) Differential relaxation: by repeated practice, one becomes able to call forth a sense of deep relaxation without tension-release cycles and while maintaining a standing or sitting position.

6. Relaxation alone may not be sufficient or may not permanently overcome anxiety. Therefore, relaxation is combined with the psychological principle of conterconditioning to desensitize situations so that anxiety no longer occurs.
7. The next step is to construct a hierarchy of anxious situations, become deeply relaxed, and proceed to visualize the situations repeatedly. The situations will become desensitized so that a full-fledged anxiety reaction never occurs.
8. Excellent results have been obtained with these procedures in the past.

Supplementary Notes on Relaxation Training

1. The ultimate goal is to be able to achieve deep muscle relaxation without first tensing individual muscle groups.
2. Tension-release cycles are: 5 sec. of tension, 20 sec. of releasing tension. They are to be done twice in the first session.
3. After relaxation of non-dominant biceps (4), deep-breathing sequence is: inhalation through the nose to the count of 5 sec. Hold the breath 5 sec. Exhale through parted lips for 8 to 10 sec. Refer to p.23 of the adapted Meichenbaum (1972) Manual.
4. Homework for the first week consists of repeating what we did in the group: one tension-release cycle. If tension remains, repeat. For the second week, breathing is stressed as well as combining muscle groups for tension-release relaxation (suggestion and breathing) at will.
5. While relaxed, subjects may feel warm, tingly or heavy... Check frequently by asking them to raise their right index finger if they still experience significant tension.
6. At the end of the 16 muscle groups, count from 1 to 4. 1- you will jiggle your legs, 2- you will move your arms, 3- you will move your head, 4- you will open your eyes and feel fresh and calm.

Modified Desensitization
Visualization Process

It is important to instruct students to raise their right index finger if they experience anxiety at any point during visualization.

Length of image: 30 sec.

Length of intermittent relaxation: 30-35 sec.

All items from the hierarchy will be presented at least twice.

Items 1 to 8: Standard Mastery manner (unless anxiety is signalled)

IF anxiety is signalled by even one member of group,

Re-present scene with coping imagery right away.

IF anxiety resurfaces, terminate image and relax (60 sec.)

Re-present coping imagery and if anxiety resurfaces again, terminate and relax (60 sec.)

IF anxiety is still present for only one or a few people, instruct the others to go on relaxing and represent coping imagery once again. Terminate and relax. Instruct to practice that item at home.

IF no anxiety has been signalled before Item 8, in Items 8-16: Vary between Mastery and Coping imagery. On Mastery imagery, re-present coping imagery only if a student signals anxiety.

Coping Items	Mastery Items
8	9
10	12
11	14
13	16
15	

On coping imagery, the counsellor might say:

..."Imagine yourself coping with this anxiety by use of the breathing procedures which we have practiced." You are taking a slow deep breath, slowly filling your chest cavity. Good. Now slowly exhale. As you exhale, note the feeling of relaxation and control settling in. Good. Now stop the image and just relax."

or

..."You are coping with your anxiety. Relax. Good. You hear yourself saying: "Pay attention to what I have to do. Stay relevant. Use any personally-generated self-statements that help you attend to the task and inhibit task-irrelevant thinking."

Rationale for Discussion-Practice Group

Because anxiety is a learned behavior, it can be unlearned.

Part of becoming a more relaxed speaker has to do with developing a more spontaneous speaking style. This can be accomplished by "putting oneself in the driver's seat", so to speak. By practicing the art of paraphrasing and using cue-words in speaking on less serious topics, one may gradually do away with the awkwardness of forgetting notes or losing one's place while reading the text of a presentation.

Of course, preparation is of utmost importance in handling more serious speeches which may have an informative or persuasive purpose. Familiarity with the material pays off great dividends. As well, knowing how to develop or chose a topic and construct a speech is a clear asset.

As we become more accustomed to forming thoughts and opinions on diverse topics, we feel freer to jump into group discussions. Self-confidence as a speaker will grow as we develop self-confidence in interpersonal communication skills at the personal as well as the group level.

Through interacting with an audience, we will develop a feeling for an audience that hopefully will overcome the "phobic" qualities that a feared situation brings to mind.

Last but not least, non-verbal or body language is as much the message as the medium (Marshall McLuhan). Developing more adequate and assertive skills in this area will most certainly be helpful in overcoming speech anxiety. Therefore, through all of the afore-mentioned goals and methods, combined simultaneously with practice making impromptu and prepared speeches, we feel that speech anxiety will be reduced.

APPENDIX B

SPEECH ANXIETY HIERARCHY

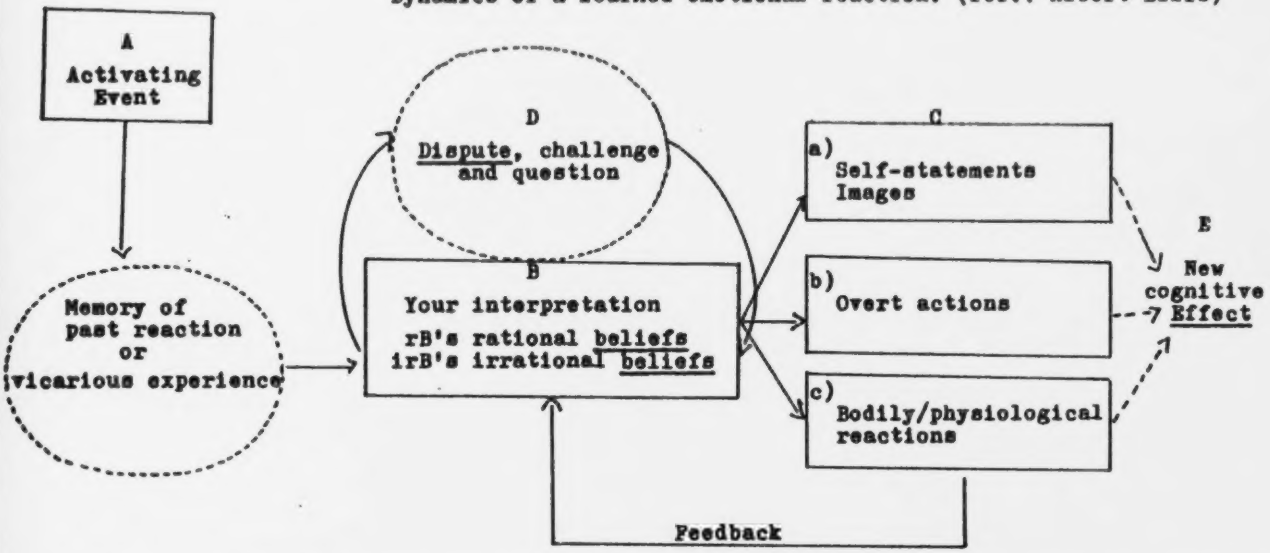
Speech Anxiety Hierarchy

1) You are choosing a topic four weeks before making a class presentation.
2) In order to prepare the content of your speech, you are doing research in the library, 3 to 4 weeks ahead of time.
3) You are making notes from your readings.
4) Some time is spent discussing the topic with friends.
5) You are organizing your material and deciding on a specific focus.
6) The instructor suggests an order of presentation.
7) The class is listening to someone else's presentation one week prior to your own.
8) You are rehearsing your speech with a friend or alone, two days before the appointed date.
9) As you are thinking about it, you are seeing yourself making the speech.
10) It is the night before your speech... your are rehearsing.
11) On the morning of your speech or presentation, you are getting up, getting ready and making your way to the appointed location.
12) You are now in the room, awaiting your turn.
13) Just as you hear your name called out, you walk up to the front of the room.
14) Now you are standing in front of the group.
15) While scanning the audience, you pause for a few moments.
16) You are now saying your first words.

APPENDIX C (1)

HANDOUTS FOR SELF-STATEMENT MODIFICATION TREATMENT

Dynamics of a learned emotional reaction. (ref.: Albert Ellis)


A
Activating Event
Memory of past reaction or vicarious experience
D
Dispute, challenge and question
B
Your interpretation
rB's rational beliefs
irB's irrational beliefs
C
a) Self-statements Images
b) Overt actions
c) Bodily/physiological reactions
E
New cognitive Effect
Feedback

A- The activating event can be a setting that resembles a past situation of failure /anxiety. It can be the sight of a person, an actual situation, an encounter...

B- Irrational beliefs tend to be: 1) absolutist ("I must"). 2) catastrophic ("How awful") 3)and self-downing (I'm worthless").

C- Consequences: a) "I'll fail, I'm helpless", image of falling apart; b) fleeing or cringing; c) sweating, heart racing, tense muscles.

D- The way to rational beliefs is by disputing irB's : 1) Why? 2) Who says? 3) Where is the evidence? Is it 100% certain I will fail? Can I survive?

E- The new cognitive effect is gained by replacing irB's with rB's.

Examples of coping self-statements

Preparing for the stressor

First, I will try to define my goals in this speaking situation.

What is it I want to accomplish? How do I wish to do it?

I can start by creating a work plan or a blue-print.

No use panicking or worrying.

Better to just focus on the task at hand, namely preparing the content of my presentation and trying to link the main points clearly.

No need to down myself or compare myself to others, just get to work and do my best.

I'm sure I'll find some way to deal with the obstacles that may arise.

Don't worry. Relax and let's get to work.

Confronting and handling the stressor

What is it I have to do? No negative self-statements.

Just think rationally.

Don't worry; worry won't help anything.

Focus on the task; exactly what do I want to transmit to the audience?

One step at a time; I can handle the situation.

Just think about what I can do to make myself clear.

That's better than getting anxious.

Don't look for pitfalls, just what do I need to say?

What's the main point?

Face the audience and try to keep a relaxed attitude and posture.

Speak slowly and clearly.

Am I being heard at the back of the room?

Better to try and focus eye contact on some individuals...

They are trying to understand my presentation. That will help.

Now, I'm following my cue card; I'm on point no.3.

Focus on linking my main points.

Slow down. Relax...breathe deeply.

I could smile a bit and pause between points...

Coping with the feeling of being overwhelmed.

Don't get anxious: take a couple of slow, deep breaths... calm... and relax... good.

Don't try to eliminate the anxiety totally; just keep it manageable.

Keep the focus on the present; what is it I have to do?

Lots more to do before I finish. Just take one point at a time.

This is the anxiety that I thought I might feel. It's a reminder for me to cope.

Slow down a little; don't rush and get all in a panic... there's enough time.

I'm going to lose control. No, take a deep breath, part lips, relax.

Label my anxiety from 0 to 10 and watch it change.

Now, I'm under control - back to the task at hand.

Reinforcing self-statements

It's working. I can control how I feel.

Wait until I tell my group about this.

I am in control. I made more out of my fear than it was worth.

My damn ideas; that's the problem. When I control them I control my fear.

It's getting better each time I use the procedure. I did it.

APPENDIX C (2)

SPEAKING SKILLS HANDOUTS

Speech development

A- Types of speeches:

There are four possible intents in the body of any speech. These are: 1) to entertain, which is probably the hardest; 2) to instruct, which is made easier if the speaker has done the research and knows the subject; 3) to persuade, which one does at a sales presentation, a political rally, or a town meeting; and finally, 4) to inspire, which is what the speaker emphasizes at a sales meeting, in a sermon, or at a pep rally.

The informative-instructive speech transmits the "how to", or sheds light on concepts, etc. It is important to know the background of the audience and to speak in terms of what can be absorbed by the listeners. Use illustrations, outlines, audio-visual aids when appropriate and possible.

B- Organization of content of most speeches:

a) In the introduction (1/5 of total), you must attract the attention and interest of your audience. You might want to do so by stating an arresting fact or asking a provocative question. You will want to state the main point, the reason why you chose the topic, its importance and your plan for presentation.

b) The main body of the speech should offer examples and illustrations for all main points being made. Concepts and sub-concepts should be related in logical fashion.

c) The summation or conclusion (1/3 of total) can take the form of a positive restatement and summarization of main point(s), an appeal for action, an evaluation of ideas/opinions expressed, a suggestion for possible areas for future research and/or a link with future presentations. A question period at the end of a speech can help to clarify and enliven the experience. It may be helpful to plant a collaborator in the group to get this process started.

HOW TO PREPARE A SEMINAR OR ORAL PRESENTATION

1. Choose an interesting topic

.use your own experience, interests, knowledge
.if choosing from a list, relate topics to past experience or future plans; select something you like, enjoy or are interested in.
.check your course manual's table of contents for ideas

2. Specify and define your topic

.make a list of synonyms for key words
.select 2 particular aspects you would like to present
.narrow down your topic to make better use of time alloted and not to get lost in too vast an area

3. Use the library resources

.get to know the library resources (pertinent sections in reference)
.check your topic in a general manual or encyclopedia
.obtain most recent articles published on topic
.check in bibliographies works quoted most often

4. Review and read material

.when finding a relevant article, read it through once without taking notes
.evaluate the relevancy of ideas/opinions
.if important, take note of main points

5. Use simple notes in preparing your outline or report

.use cards to take notes
.always write name of author, title, date of publication, volume, number of pages and brief summary
.use different card for each topic

6. Make an outline

.go over data recorded and look for similarities and differences of opinion, method, approach, etc.
.clarify the ideas expressed and your own views on the question.

.determine which outlook you prefer
.organize the material so as to bring to light the proper subordination and relationship among issues or concepts and the logical, effective transition between points

7. Prepare your seminar notes

.write down only your key points, main ideas
.never read your text word for word
.rehearse at least twice
.if needed, write down the first two or three sentences and memorize them
.prepare your audio-visual aids to clarify or summarize (show aid before discussing the content)
.be sure the level of vocabulary is appropriate for your audience
.be logical, coherent and clear

HOW TO DELIVER A SPEECH OR A PRESENTATION

"Delivery" refers to the combined effectiveness of such transmission variables as voice, diction, word selection, pausing, gesture, eye contact, movement, voice volume, pitch and rate, etc.

1. Your appearance

   .The occasion will establish the dress code; your audience's attention must not focus on your appearance. Your words - not your clothes - must keep their attention.
   .Your face is also part of your appearance! Look alive, interested, enthusiastic.
   .React to your own words (smile at your own jokes!)
   .Show your interest in the topic; reflect the importance of your ideas or those you are presenting.

2. Speak to one person at a time

   .Don't try to speak to 25, 50 or 500 persons at once. Address yourself to individuals in the audience.
   .Look at them; force yourself to establish eye contact before you start.
   .If you know some of the persons listening, focus on those you know are usually receptive.

3. Your voice

   .When speaking in a large hall, ask a friend to signal to you from the back of the room to know if you speak loudly enough.
   .To increase the volume of your voice, take deep breaths and project your voice to the back of the hall.
   .If using a microphone, leave about 6 inches. Never place your mouth directly on microphone.

4. Keep your head high

   .It is preferable to stand; you will be less likely to lower your head - and voice. Speak naturally, without reading. Be positive and thoroughly prepared.
   .Move aroud, make gestures. It helps to keep your audience interested (and awake!!)

5. Speed

.Vary the speed; don't be afraid to pause. This is particularly useful before making an important point. Time yourself when rehearsing. Write on your cards how much time it should take you so that you know if you are too fast or too slow.
.Be attentive to your audience's reactions, it will help you determine your pace and to check if you are understood.

Good luck!

Sources: SHEFFER, Harry. How to Prepare Talks and Oral Reports, Pocket Book, New York, 1977, 239p.
WATSON, W., PARODO, L., TOMOVIC, V. How to give an Effective Seminar, Don Mills, General Publishing C., Limited, 1978, 158p.

Body Language

Non-verbal communication is as important as the content of your presentation or speech. It may mean the difference between being warmly received by an audience which is persuaded to your viewpoint or being tolerated by an audience which is more interested in checking the clock than listening to what you have to say.

The major components of body language are: voice, eye-contact, facial expression, gestures and posture.

I - Voice:

A- Your voice is a most effective instrument for expressing your ideas with power and self-assurance. You will want to avoid speaking too loudly or too softly. Good projection is essential. Projecting your voice means making your words carry to the place you want them to go. This is slightly different from volume or loudness. To project or "throw" your voice correctly you must focus on the location to which you want your words to carry, and mentally "aim" them in that direction. Of course, if using a microphone, the volume of your voice need not be so great, but projecting in the sense described is still important.

B- Speaking clearly means good articulation. Poor articulation comes accross as dull, sloppy and irritating. Sound the following letters as clearly as possible: p, t, b, d, g, k. Good nasal sounds (n, m, ng) add depth and resonance to your voice, but the nasal quality should not show up in vowels.

C- Speaking with expression means that good tonal quality (pitch) and rythm are present. If you want the people in the audience to "read" your message accurately, extend your pitch range and improve your control of pitch variations. Greater shades of meaning can be communicated by pitch inflections. In some cases it can be helpful to practice lowering the pitch of your voice, but making sure not to eliminate variation and flexibility. There are three basic inflections:

Rising: "Who was that?
Falling: "Always" or "Absolutely not".
Complex: "Really?" (showing disbelief)

"No-oo" (showing surprise)

Rythm or speaking rate can be cluttered by long pauses and by disfluencies such as "ah", "uh", "anda" or by repetitive fillers such as "okay", "you know", "well", "see". It can be very helpful to code or mark your script or paper for appropriate pauses (ex. before or after an important word), words to be stressed or receive pitch inflections, and important meaningful words or phrases to be said slowly.

II- Eye-contact:

To reach your audience, good eye-contact is the first bridge to cross. It is very important to direct your gaze to at least a few well dispersed, enthusiastic faces at least part of the time (in the event that you need to keep in touch with your written presentation) or most of the time if possible. Staring fixedly or looking away, shifting your head and eyes excessively can be disquieting for your listeners.

III-Facial expression:

A relaxed and alert facial expression creates a relaxed and receptive atmosphere in the audience. Varying expression to fit intent and content will add to the overall quality of the communication. Try to achieve an animated expression without signs of tension such as wrinkled forehead, pursed lips, wetting your lips, repeated swallowing or throat clearing.

IV- Gestures:

Gestures will become more fluent as familiarity with the subject area grows. Feel free to link meaning with appropriate gestures, all the while avoiding distracting, repetitive movements such as scratching your head, preening, adjusting clothing, tinkering with jewelry, etc. If you are uncertain about what gestures to use, simply start by bringing your hands together behind your back. Natural movements will be compelled by an animated delivery.

V- Posture:

The main points here are to orient yourself toward the main body of the audience, taking care to shift occasionally for the others; to maintain a relaxed, but preferably standing position (especially for class presentation); to move about if the context allows, while avoiding excessive pacing or shifting of weight from one foot to the other. A position within 10 feet of the front row is quite suitable in most instances.

Strategies for Presenting Evidence and Reasoning

Bear in mind that these are strategies. You will not employ _all_ the strategies on any one occasion; however, use of some strategies will make your material more meaningful and will encourage acceptance of the concepts that you are trying to get accross. The material that you are presenting will determine the particular strategies that you might want to use. In presenting evidence and reasoning, you are appealing to the intelligence of an audience. You are assuming the audience will make some kind of critical assessment of your ideas. Therefore, you want to give them as much reason as possible to believe and place confidence in what you are presenting. Reference to these guidelines may help you in gaining that confidence.

1. Utilize sound standards in citing the testimony of experts.
    a. Show that the witness is an expert in the field.
    b. Show that he/she had an opportunity to get the facts first hand.
    c. Show that he/she is competent and reliable; that he/she has the mental and physical abilities to report reliably.
    d. Show that he/she is reasonably unbiased and lacks self-interest in the matter at hand.
    e. Show that he/she is supported by other experts, by instances, and by reasoning.
2. Utilize sound standards in citing statistics (numerical expression of specific instances summarizing and

interpreting the data).

a. Clearly and consistently define the units represented by the statistics.

b. Show that the sample of instances used is large enough to justify a projection concerning the class of instances as a whole.

c. Show that each unit of the total population of instances had an equal opportunity to be included in the count.

d. Show that the two or more bodies of statistics being compared are really comparable.

e. Show that the number of instances is large enough to permit meaningful percentages.

f. Present statistics in a clear and meaningful fashion. Interpret them; compare them to something already understood.

g. Show that the statistics cover a sufficient time period, or are recent enough.

h. Show that the source of statistics is unbiased, competent, and acceptable to the audience.

3. Utilize sound standards in citing examples and in generalizing from instances:

   a. Show that the instances cited in the sample are relevant to the class about which the generalization is being made.

   b. Show that the number of examples cited is large enough to justify the generalization.

   c. Show that the instances in the sample are representative of the class from which they come; show the sample was fairly selected.

d. Show that there are no important negative instances which would weaken or disprove the generalization.

4. Utilize sound standards in demonstrating a literal analogy (comparison of two things of a like class to show that something known to exist in one probably exists in the other):

   a. Show that the known characteristics of both actually are similar.

   b. Show that the known characteristics being compared are essential elements.

   c. Show that there are no important dissimilarities.

   d. Show that the essential points of similarity outweigh the essential points of difference.

   e. Show that the analogy is relevant to the subject at hand.

5. Utilize sound standards in demonstrating evidence of a causal relationship:

   a. Accumulate examples and statistics to show that the supposed cause and known effect are associated in a convincing number of instances. Show that whenever the supposed cause was present, the related known effect occured.

   b. Accumulate sufficient instances to show that whenever the supposed cause was not present, the situation being examined did not occur.

   c. Accumulate sufficient instances to show that whenever a large amount of the known cause has been present, a large amount of the known effect has been present, and vice versa.

   d. Show that other causes did not produce the situation being considered.

e. Show that some other factor or force will not intervene or lessen the predicted effect.

f. Show that the supposed or known cause was sufficiently capable (had the strength, facilities, motivation, etc.).

g. Show that the occurence of the predicted effects is probable, not just possible. Specify the degree or strength of probability.

h. Show that you have not mistaken a chronological relationship (A immediatelay followed by B) for a causal relationship, (A causes B).

i. Demonstrate that a chain of causes led to the situation being examined. Specify the immediate cause and the ultimate cause.

j. Demonstrate that a number of relatively equal causes combined to produce the situation.

k. Demonstrate that among a number of contributing causes, one was of primary influence.

l. Strengthen proof of causal relationship by citing testimony of experts who attest to the specific relationship you are demonstrating.

STANDARDS FOR JUDGING "PROBLEM" SPEECHES

1. Subject: Was the speech about a problem of significance?

2. Opening: Did the opening of the speech arrest attention at a high peak at once? Avoid using general statements, apologies, irrelevant comments or materials so sensational that they attract attention unduly to themselves. The best openings use vivid examples or startling statistics that epitomize the problem.

3. Strategy: Did the speaker use the best possible strategy?

    *a. Selection: Did the speaker select those ideas most appropriate to his/her problems, to the audience and to himself/herself and those that were most certain to lead the audience to understand and feel the importance of the problem?

    *b. Limitation: Did the speaker limit these ideas so that they were crucial and indispensable?

    *c. Statement: Were the main points stated clearly and vividly?

    *d. Arrangement: Were the ideas taken up in the best order?

4. Tactics: Did the speaker support his/her general statements with vivid and valid undetailed examples (instances), detailed examples, hypothetical examples, statistics, testimony and visual aids so that the speech was interesting, clear and logical?

5. Summaries: Did the speaker summarize skillfully and frequently? It is nearly impossible to summarize too frequently.

6. Delivery: Did the speaker demonstrate by his/her delivery that he/she had grasped the intrinsic significance of the ideas? Did he/she use a direct address style (you, we, us...)? Did he/she use a conversational or an essay style?
7. Conclusion: Did the speaker conclude with a clear, and if possible, vivid re-statement of the importance of his problem?
8. Outline: Did the speaker's outline follow standard outlining form?
9. Time: Did the speech fall within the time limits?
10. Questions: Did the speaker answer questions clearly and intelligently so as to show that he/she had a broad and deep understanding of the subject? In order to be sure that there will be at least one question for you, give a friend a question he can ask you. After one question is asked, an audience will frequently think of others.

*An asterisk indicates the most important standards. These are the standards that are the hardest to meet, or that most frequently determine the success or failure of the speech. You should give them careful attention.

APPENDIX D

ASSESSMENT INSTRUMENTS

S-R Inventory of Anxiouness

"You are getting up to give a speech before a large group".

Instructions: Circle one of the five alternative degrees of reaction or attitude for each of the following 14 items.

Example: If your heart beats much faster in this situation you would darken alternative 5; if your heart beats somewhat faster, you would darken either alternative 2, 3, or 4 depending on how much faster; if in this situation your heart does not beat faster at all, you would darken alternative 1.

1. Heart beats faster 1 2 3 4 5
   Not at all — Much faster

---

2. Get an "uneasy feeling" 1 2 3 4 5
   None — Very strongly

---

3. Emotions disrupt action 1 2 3 4 5
   Not at all — Very disruptive

---

4. Feel exhilarated and thrilled 1 2 3 4 5
   Very much — Not at all

---

5. Want to avoid situation 1 2 3 4 5
   Not at all — Very much

---

6. Perspire	Not at all	1	2	3	4	5	Perspire much
7. Need to urinate frequently	Not at all	1	2	3	4	5	Very frequently
8. Enjoy the challenge	Enjoy much	1	2	3	4	5	Not at all
9. Mouth gets dry	Not at all	1	2	3	4	5	Very dry
10. Become immobilized	Not at all	1	2	3	4	5	Completely
11. Get full feeling in stomach	None	1	2	3	4	5	Very full
12. Seek experience like this	Very much	1	2	3	4	5	Not at all
13. Have loose bowels	None	1	2	3	4	5	Very much
14. Experience nausea	Not at all	1	2	3	4	5	Much nausea

Fear of Negative Evaluation
Evaluation Scale I

T F 1. I rarely worry about seeming foolish to others.(F)

T F 2. I worry about what people will think of me even when I know it doesn't make any difference.(T)

T F 3. I become tense and jittery if I know someone is sizing me up.(T)

T F 4. I am unconcerned even if I know people are forming an unfavorable impression of me.(F)

T F 5. I feel very upset when I commit some serious error.(T)

T F 6. The opinions that important people have of me cause me little concern.(F)

T F 7. I am often afraid that I may look ridiculous or make a fool of myself.(T)

T F 8. I react very little when other people disapprove of me.(F)

T F 9. I am frequently afraid of other people noticing my shortcomings.(T)

T F 10. The disapproval of others would have little effect on me.(F)

T F 11. If someone is evaluating me I tend to expect the worst.(T)

T F 12. I rarely worry about what kind of impression I am making on someone.(F)

T F 13. I am afraid that others will not approve of me.(T)

T F 14. I am afraid that people will find fault with me.(T)

T F 15. Other people's opinions of me do not bother me.(F)

T F 16. I am not necessarily upset if I do not please someone.(F)

T F 17. When I am talking to someone, I worry about what they may be thinking about me.(T)

T F 18. I feel that you can't help making social errors sometimes, so why worry about it.(F)

T F 19. I am usually worried about what kind of impression I make.(T)

T F 20. I worry a lot about what my superiors think of me.(T)

T F 21. If I know someone is judging me, it has little effect on me.(F)

T F 22. I worry that others will think I am not worthwhile.(T)

T F 23. I worry very little about what others may think of me.(F)

T F 24. Sometimes I think I am too concerned with what other people think of me.(T)

T F 25. I often worry that I will say or do the wrong things.(T)

T F 26. I am often indifferent to the opinions others have of me.(F)

T F 27. I am usually confident that others will have a favorable impression of me.(F)

T F 28. I often worry that people who are important to me won't think very much of me.(T)

T F 29. I brood about the opinions my friends have about me.(T)

T F 30. I become tense and jittery if I know I am being judged by my superiors.(T)

Social Avoidance and Distress
Evaluation Scale II

T F 1. I feel relaxed even in unfamiliar social situations.(F)

T F 2. I try to avoid situations which force me to be very sociable.(T)

T F 3. It is easy for me to relax when I am with strangers.(F)

T F 4. I have no particular desire to avoid people.(F)

T F 5. I often find social occasions upsetting.(T)

T F 6. I usually feel calm and comfortable at social occasions.(F)

T F 7. I am usually at ease when talking to someone of the opposite sex.(F)

T F 8. I try to avoid talking to people unless I know them well.(T)

T F 9. If the chance comes to meet new people, I often take it.(F)

T F 10. I often feel nervous or tense in casual get-togethers in which both sexes are present.(T)

T F 11. I am usually nervous with people unless I know them well.(T)

T F 12. I usually feel relaxed when I am with a group of people.(F)

T F 13. I often want to get away from people.(T)

T F 14. I usually feel uncomfortable when I am in a group of people I don't know.(T)

T F 15. I usually feel relaxed when I meet someone for the first time.(F)

T F 16. Being introduced to people makes me tense and nervous.(T)

T F 17. Even though a room is full of stangers, I may enter it anyway.(F)

T F 18. I would avoid walking up and joining a large group of people.(T)

T F 19. When my superiors want to talk with me, I talk willingly.(T)

T F 20. I often feel on edge when I am with a group of people.(T)

T F 21. I tend to withdraw from people.(T)

T F 22. I don't mind talking to people at parties or social gatherings.(F)

T F 23. I am seldom at ease in a large group of people.(T)

T F 24. I often think up excuses in order to avoid social engagements.(T)

T F 25. I sometimes take the responsability for introducing people to each other.(F)

T F 26. I try to avoid formal social occasions.(T)

T F 27. I usually go to whatever social engagements I have.(F)

T F 28. I find it easy to relax with other people.(F)

Personal Report of Confidence as a Speaker

This instrument is composed of 30 items regarding your feelings of confidence as a speaker. After each question there is a "true" and a "false".

Try to decide whether "true" or "false" most represents your feelings associated with your most recent speech, then put a circle around the "true" or "false". Remember that this information is completely confidential and will not be made known to your instructor. Work quickly and don't spend much time on any one question. We want your first impression on this questionnaire. Now go ahead, work quickly, and remember to answer every question.

1. I look forward to an opportunity to speak in public. T F
2. My hands tremble when I try to handle objects on the platform. T F
3. I am in constant fear of forgetting my speech. T F
4. Audiences seem friendly when I address them. T F
5. While preparing a speech I am in a constant state of anxiety. T F
6. At the conclusion of a speech I feel that I have had a pleasant experience. T F
7. I dislike to use my body and voice expressively. T F
8. My thoughts become confused and jumbled when I speak before an audience. T F
9. I have no fear of facing an audience. T F
10. Although I am nervous just before getting up I soon forget my fears and enjoy the experience. T F
11. I face the prospect of making a speech with complete confidence. T F
12. I feel that I am in complete possession of myself while speaking. T F
13. I prefer to have notes on the platform in case I forget my speech. T F
14. I like to observe the reactions of my audience to my speech. T F
15. Although I talk fluently with my friends I am at loss for words on the platform. T F
16. I feel relaxed and comfortable while speaking. T F
17. Although I do not enjoy speaking in public I do not particularly dread it. T F
18. I always avoid speaking in public if possible. T F
19. The faces of my audience are blurred when I look

at them. T F

20. I feel disgusted with myself after trying to address a group of people. T F
21. I enjoy preparing a talk. T F
22. My mind is clear when I face an audience. T F
23. I am fairly fluent. T F
24. I perspire and tremble just before getting up to speak. T F
25. My posture feels strained and unnatural. T F
26. I am fearful and tense all the while I am speaking before a group of people. T F
27. I find the prospect of speaking mildly pleasant. T F
28. It is difficult for me to calmly search my mind for the right words to express my thoughts. T F
29. I am terrified at the thought of speaking before a group of people. T F
30. I have a feeling of alertness in facing an audience. T F

Please indicate: Year of study 1 2 3 4

Field of study ____________________

RATING NON VERBAL BEHAVIOR

Rater ________________ Subject Identification__________

Date ________________ Tape no. ______________________

Circle the appropriate rating

Behavior

---

1. Eye-contact

1. Poor, no eye contact at all or very minimal/ excessive staring.	1		
2. Fair, eye contact present part of the time.		2	
3. Good, direct and present most of the time.			3

2. Voice:

A) Loudness:

1. Poor, too soft/ too loud/ quivering.	1		
2. Fair, somewhat too soft of too loud.		2	
3. Good, adequate volume, consistent.			3

B) Intonation:

1. Poor, very little intonation (monotone).	1		
2. Fair, lack of adequate intonation.		2	
3. Good, adequate intonation.			3

C) Pacing:

1. Poor, hesitation/racing.	1		
2. Fair, lack of adequate pacing.		2	
3. Good, adequate pacing.			3

3. Facial expression:

1. Poor, tenseness/ "deadpan"/ repetitive behaviors/ heavy perspiration.	1		
2. Fair, somewhat tense or unexpressive.		2	
3. Good, appropriately animated.			3

---

4. Gestures:	
1. Poor, hand tremors/ arms rigid or tense/ repetitive and distracting movement (clears throat, etc.).	1
2. Fair, some use of gestures.	2
3. Good, appropriate gestures and appearance of being relaxed.	3
5. Posture:	
1. Poor, shuffling/ swaying/ standing back/ slouching/ "freezing"/ trembling.	1
2. Fair, some of these behaviors.	2
3. Good, relaxed, erect posture, some movement and good orientation toward audience.	3
6. Overall effectiveness:	
1. Totally ineffective, mechanical, awkward.	1
2. Poor.	2
3. Fair.	3
4. Good.	4
5. Excellent, fluid, integrated.	5

APPENDIX E

CONFIDENTIAL EVALUATION

CONFIDENTIAL EVALUATION

Date:______________

Please answer by circling the appropriate alternative:

	NOT AT ALL		SOMEWHAT		VERY MUCH
1. To what degree do you feel these sessions have been helpful in overcoming speech anxiety?	1	2	3	4	5
2. To what degree have these sessions been helpful in other areas, in addition to the speech situation? Please indicate other situations or areas in which these meetings have helped. __________________________________ __________________________________	1	2	3	4	5
3. To what degree was your counsellor effective in leading the sessions?	1	2	3	4	5
4. To what degree was the first test speech helpful in the process?	1	2	3	4	5
5. To what degree was the handout material relevant and useful?	1	2	3	4	5

Summary of results of Confidential Evaluation

Questions number one and two bear some relevance to the issue of effectiveness of treatments and the generalization of treatment to social situations other than public-speaking. To the first question, helpfulness of the sessions, Ss in the SSM, CM, MD and AP treatment groups gave corresponding ratings of 4.40, 3.92, 3.82 and 3.86. To the second question, helpfulness of the sessions for other social situations, the ratings were, 4.30, 3.77, 3.71 and 3.86 for the same treatment groups. Though the significance of this information is not totally clear, it does appear to be consistent with results from the data analyses. Indeed, overall visual examination of the data reveals an order of effectiveness placing SSM first, followed by CM , MD and AP.

With regards to the second question, the most frequently-cited examples of other social situations listed in decreasing order were: General interpersonal/social situations (eg. talking on the phone, a blind date, job interviews, clinical practice in hospitals); increasing overall self-confidence; feeling relaxed in different social situations (eg. personal interaction in a crowd, conflicts, driving in bad weather); meeting and talking to people; asking questions in class; doing essays and tests; group discussion and meetings. The highest frequency comments for the SSM, CM, MD and AP groups respectively were: meeting and talking to people (4); feeling relaxed in different social situations (5); feeling relaxed in different social situations and general interpersonal/ social situations (2 each); increasing overall self-confidence (2). Verbatim responses follow.

2. Other situations or areas in which these meetings have helped:

Self-statement modification treatment

- Social situations and overall self-confidence.

- Talking with people whom you don't know on an informal basis.

- Meeting people, talking with people.

- Meeting people and learning about sharing and coping.

-In class situations, I feel more confident in answering questions and my over feeling of myself is better; it helped me to feel more confident in my abilities.

- Job interviews. General relationships with other people; I feel more relaxed and confident.

- Hearing other comments and problems that are common to very many people.

- Social settings, asking questions, speaking to strangers (i.e. salesclerk).

- Answering questions in class; small group participation.

- Clinical practice in hospital; exams.

Cognitive modification treatment

- Being relaxed during personal interactions.

- Essays, one-on-one conversations, small group discussions.

- Increased self-confidence; more extrovert.

- Talking on the phone.

- Personal - social situations. Awareness of self-talk, relax before stressful encounters.

- I hate to say it - but the paper on organization has helped me in writing my English essays.

- Any situation that evokes tension/anxiety.

- The relaxation techniques have helped me remain calm in other tense situations e.g. driving in bad weather.

- Sessions helped spell out facts we may have thought but not put into words.
- Relaxation techniques.

- More time should be spent on making speeches not relaxation training.

- Tests.

- With respect to other stressful situations, conflicts, etc., the relaxation techniques have been helpful e.g. when I have difficulty getting to sleep.

- Class participation; relaxed in a crowd.

Modified desensitization treatment

- Answering in class.

- A blind date; a very stressful exam.

- Social situations, meeting people.

- In my personal life.

- Social situations.

- Meeting new people in large groups.

- Having more self-confidence; positive feeling about self; no longer worried a need (?) as to what others think of me; if they don't like me - their loss - who cares!

- Singing at church; formal dinner; discussing specific areas of study with "superiors".

- Relaxing when I'm under stress.

- Group discussion.

- The speech situation is very helpful, but the other session is not so helpful as I expected. Getting more comfort is the result.

- Piano recital.

- Singing at my church one Saturday evening with three other individuals.

- To be at ease with others, to listen and learn in a group.

- They have helped me get more used to the idea of being able to walk up there to talk. I used to really dread speeches (not that I like it now) but I think the more I get up to practice giving speeches, the less anxious I become.

Attention-placebo treatment

- I feel that these sessions have helped me become more confident in interpersonal relationships.

- Meeting people - socializing - comfortable with people of opposite sex.

- Increased self-confidence when talking to individuals.

- Interpersonal communications - work situations.

- Better understanding of how to prepare a speech.

- Just general social situations; asking questions in class.

- My confidence has increased - I can empathize with other speakers.

- Group meetings with friends, speaking on the mic at parties.

- To get to know other people; understanding speech anxiety.

- Helpful in eye contact and body expressions.

- Confidence in oneself; meeting new people.

- Je sais où est le problème; je peux m'attaquer ou entreprendre quelque chose maintenant [I know where the problem is; I can work at it now].

- At work, in classroom; talking to people.